

COURSE SCHEME														
BATCH 2025-2029														
BTECH IN MINING ENGINEERING														
SEMESTER I														
S. No	NSQF/ NATIONAL CREDIT FRAMEWORK NCF CREDIT LEVEL	BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Evaluation Scheme				Subject Total	Periods			Credit
						Assignme nt	TA	Total	ESE		L	T	P	
1	4.5	Basic Science Course	Multidisciplinary Course (MDC)	8BSC101	Physics	20	10	30	70	100	3	1	0	4
2		Basic Science Course	Multidisciplinary Course (MDC)	8BSC102	Mathematics I	20	10	30	70	100	3	1	0	4
3		Engineering Science Course	Core Course (CC)- Minor	8ESC101	Basic Electrical Engineering	20	10	30	70	100	3	1	0	4
4		Engineering Science Course	Core Course (CC)- Minor	8ESC102	Engineering Graphics & Design	20	10	30	70	100	2	0	0	2
5		Humanities and Social Sciences	Ability Enhancement Courses (AEC)	8HSMC101	English	20	10	30	70	100	2	0	2	3
PRACTICAL /SESSIONAL														
1	4.5	Basic Science Course	Skill Enhancement Course (SEC)	8BSC101P	Physics Lab			30	20	50	0	0	2	1
2		Engineering Science Course	Skill Enhancement Course (SEC)	8ESC101P	Basic Electrical Engineering Lab			30	20	50	0	0	2	1
3		Engineering Science Course	Skill Enhancement Course (SEC)	8ESC102P	Engineering Graphics & Design Lab			30	20	50	0	0	2	1
									TOTAL	650				20

BATCH 2025-2029														
BTECH IN MINING ENGINEERING														
SEMESTER II														
S.No.	NSQF/ NATIONAL CREDIT FRAMEWORK NCF CREDIT LEVEL	BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Evaluation Scheme				Subject Total	Periods			Credit
						Assignme nt	TA	Total	ESE		L	T	P	
1	4.5	Basic Science Course	Multidisciplinary Course (MDC)	8BSC103	Chemistry	20	10	30	70	100	3	0	0	3
2		Basic Science Course	Multidisciplinary Course (MDC)	8BSC104	Mathematics II	20	10	30	70	100	3	1	0	4
3		Engineering Science Course	Core Course (CC)- Minor	8ESC103	Programming for Problem Solving	20	10	30	70	100	3	0	0	3
4		Engineering Science Course	Core Course (CC)- Minor	8ESC104	Workshop Practice	20	10	30	70	100	2	0	0	2
5		Mandatory Course	Core Course (CC)- Minor	8MC101	Environmental Science	20	10	30	70	100	3	0	0	3
6		Humanities and Social Sciences	Value Added Course (VAC)	8VAC101	Character Building and Holistic Development of Personality 1 (Spritual & Mental Health)	40	10	50	50	100	2	0	0	2
PRACTICAL /SESSIONAL														
1	4.5	Basic Science Course	Skill Enhancement Course (SEC)	8BSC103P	Chemistry Lab			30	20	50	0	0	2	1
2		Engineering Science Course	Skill Enhancement Course (SEC)	8ESC103P	Programming for Problem Solving Lab			30	20	50	0	0	2	1
3		Engineering Science Course	Skill Enhancement Course (SEC)	8ESC104P	Workshop Practice Lab			30	20	50	0	0	2	1
									TOTAL	750				20

NOTE: Mandatory Vocational /Industrial Training (4 Weeks) of 4 credits or any specialized course of minimum 4 credits for student opting for exit after first year with UG CERTIFICATE.

BATCH 2025-2029														
BTECH IN MINING ENGINEERING														
SEMESTER III														
S.No.	NSQF/NATIONAL CREDIT FRAMEWORK NCrF CREDIT LEVEL	BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Evaluation Scheme				Subject Total	Period			Credit
						Assignment	T	A	Total		ESE	L	T	
1	5.0	Basic Science Course	Core Course (CC)- Minor	8BSC201	Mathematics III	20	10	30	70	100	3	0	0	3
2		Engineering Science Course	Core Course (CC)- Minor	8ESC201	Engineering Mechanics	20	10	30	70	100	3	0	0	3
3		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE201	Elements of Mining Technology	20	10	30	70	100	3	0	0	3
4		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE202	Mining Geology I	20	10	30	70	100	3	0	0	3
5		Professional Core Courses	Core Course (CC)- Minor	8PCCMiE203	Basic Mine Surveying	20	10	30	70	100	3	0	0	3
6		Humanities and Social Sciences	Ability Enhancement Courses (AEC)	8HSMC201	Effective Technical Communication	20	10	30	70	100	3	0	0	2
7		University Mandatory Courses	Value Added Course (VAC)	8UMC102	**Community Engagement and Social Responsibility	40	10	50	50	100	1	0	2	2
PRACTICAL/ SESSIONAL														
1	5.0	Professional Core Courses	Core Courses (CC)- Major	8PCCMiE202P	Mining Geology I Lab			30	20	50	0	0	2	1
2		Professional Core Courses	Core Courses (CC)- Minor	8PCCMiE203P	Basic Mine Surveying Lab			30	20	50	0	0	2	1
										TOTAL	800			21

** Only Viva Voce will be conducted.

BATCH 2025-2029														
BTECH IN MINING ENGINEERING														
SEMESTER IV														
S.No.	NSQF/NATIONAL CREDIT FRAMEWORK NCrF CREDIT LEVEL	BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Evaluation Scheme				Subject Total	Period			Credit
						Assignment	T	A	Total		ESE	L	T	
1	5.0	Engineering Science Course	Core Courses (CC)- Minor	8ESC202	Thermodynamics & Fluid Mechanics	20	10	30	70	100	3	0	0	3
2		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE204	Elements of Rock Mechanics	20	10	30	70	100	3	0	0	3
3		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE205	Mining Geology II	20	10	30	70	100	3	0	0	3
4		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE206	Surface Mining	20	10	30	70	100	3	0	2	3
5		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE207	Mine Surveying & Geospatial Technology	20	10	30	70	100	3	0	0	3
6		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE208	Drilling & Blasting Technology	20	10	30	70	100	3	0	0	3
7		Humanities and Social Sciences	Value Added Course (VAC)	8VAC201	Character Building and Holistic Development of Personality 2 (Yoga and Physical Fitness)	40	10	50	50	100	2	0	0	2
PRACTICAL/ SESSIONAL														
1	5.0	Professional Core Courses	Core Courses (CC)- Major	8PCCMiE204P	Elements of Rock Mechanics Lab			30	20	50	0	0	2	1
2		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE205P	Mining Geology II Lab			30	20	50	0	0	2	1
3		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE207P	Mine Surveying & Geospatial Technology Lab			30	20	50	0	0	2	1
										TOTAL	850			23

Vocational Training in a Surface / Underground Mine of minimum 30 (Thirty) days to be taken at the end of IVth Semester Will be Credited in Vth Semester.

NOTE: Mandatory Vocational /Industrial Training (4 Weeks) of 4 credits or any specialized course of minimum 4 credits for student opting for exit after first year with UG DIPLOMA.

BATCH 2025-2029															
BTECH IN MINING ENGINEERING															
SEMESTER V															
S.No.	NSQF/ NATIONAL CREDIT FRAMEWORK NCrF CREDIT LEVEL	BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Evaluation Scheme				Subject Total	Period			Credit	
						Assignment	T A	Total	ESE		L	T	P		
1	5.5	Professional Core Courses	Core Courses (CC)- Major	8PCCMiE301	Mining Machinery I	20	10	30	70	100	3	0	0	3	
2		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE302	Mines & Mineral Economics	20	10	30	70	100	3	0	0	3	
3		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE303	Underground Coal Mining	20	10	30	70	100	3	0	0	3	
4		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE304	Operational Research in Mining	20	10	30	70	100	3	0	0	3	
5		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE305	Ventilation & Climate Control	20	10	30	70	100	3	0	0	3	
6		OPEN ELECTIVE COURSE I(Any one of the following subjects)					20	10	30	70	100	3	0	0	3
		Open Elective Courses	Value Added Course (VAC)	8OEC301	Indian Knowledge System (IKS)- Concepts and Applications in Engineering										
		Open Elective Courses	Value Added Course (VAC)	8OEC302	Plastic Waste Management										
		Open Elective Courses	Value Added Course (VAC)	8OEC303	Enterprenurship										
		Open Elective Courses	Value Added Course (VAC)		Any subject from MOOCS										
PRACTICAL / SESSIONAL															
1	5.5	Professional Core Courses	Core Courses (CC)- Major	8PCCMiE305P	Ventilation & Climate Control Lab			30	20	50	0	0	2	1	
2		Project	Summer Internship Course	8PROJMiE301	Vocational Training Report			50	50	100	0	0	0	3	
										TOTAL	750				22

BATCH 2025-2029															
BTECH IN MINING ENGINEERING															
SEMESTER VI															
S.No.	NSQF/ NATIONAL CREDIT FRAMEWORK NCrF CREDIT LEVEL	BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Evaluation Scheme				Subject Total	Period			Credit	
						Assignment	T A	Total	ESE		L	T	P		
1	5.5	Professional Core Courses	Core Courses (CC)- Major	8PCCMiE306	Mining Machinery II	20	10	30	70	100	3	0	0	3	
2		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE307	Underground Metal Mining	20	10	30	70	100	3	0	0	3	
3		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE308	Advanced Underground Mining	20	10	30	70	100	3	0	0	3	
4		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE309	Applied Rock Mechanics	20	10	30	70	100	3	0	0	3	
5		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE310	Mine Environmental Engineering	20	10	30	70	100	3	0	0	3	
6		Humanities and Social Sciences	Value Added Course (VAC)	8VAC301	Character Building and Holistic Development of Personality 3 (Universal Human Values and Ethics)	40	10	50	50	100	2	0	0	2	
7		OPEN ELECTIVE COURSE II (Any one of the following subjects)					20	10	30	70	100	3	0	0	3
		Open Elective Courses	Core Courses (CC)- Minor	8OEC304	Data Analytics										
		Open Elective Courses	Core Courses (CC)- Minor	8OEC305	Mine Automation & IOT										
		Open Elective Courses	Core Courses (CC)- Minor	8OEC306	Mine Electrical Engineering										
	Open Elective Courses	Core Courses (CC)- Minor		Any subject from MOOCS											
PRACTICAL / SESSIONAL															
1	5.5	Professional Core Courses	Core Courses (CC)- Major	8PCCMiE309P	Applied Rock Mechanics Lab			30	20	50	0	0	2	1	
2		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE310P	Mine Environmental Engineering Lab			30	20	50	0	0	2	1	
2		Professional Core Courses	Skill Enhancement Course (SEC)	8PCCMiE311P	Computer Aided Mine Planning Lab			30	20	50	0	0	2	1	
										TOTAL	850				23

BATCH 2025-2029															
BTECH IN MINING ENGINEERING															
SEMESTER VII															
S.No.	NSQF/ NATIONAL CREDIT FRAMEWORK NCrF CREDIT LEVEL	BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Evaluation Scheme				Subject Total	Period			Credit	
						Assignment	T	A	Total		ESE	L	T		P
1	6.0	Professional Core Courses	Core Courses (CC)- Major	8PCCMiE401	Mine Legislation & Safety I	20	10	30	70	100	3	0	0	3	
2		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE402	Mine Hazards & Risk	20	10	30	70	100	3	0	0	3	
3		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE403	Mine Planning	20	10	30	70	100	3	0	0	3	
4		DEPARTMENTAL ELECTIVE COURSE I (Any one of the following subjects)					20	10	30	70	100	3	0	0	3
		Departmental Elective Course	Core Courses (CC)- Major	8DECMiE401	Mine Closure										
		Departmental Elective Course	Core Courses (CC)- Major	8DECMiE402	Dimensional Stone Mining										
		Departmental Elective Course	Core Courses (CC)- Major	8DECMiE403	Design of Open Pit Mines										
		Departmental Elective Course	Core Courses (CC)- Major	8DECMiE404	Mine Management										
5		Humanities and Social Sciences	Ability Enhancement Courses (AEC)	8HSMC401	**Seminar in Executive Communication	20	10	30	20	50	2	0	0	2	
PRATICAL / SESSIONAL															
1	6.0	Project	Project	8PROJMiE401	Mining Project Work I			100	100	200	0	0	3	6	
TOTAL										650				20	

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BATCH 2025-2029															
BTECH IN MINING ENGINEERING															
SEMESTER VIII															
S.No.	NSQF/ NATIONAL CREDIT FRAMEWORK NCrF CREDIT LEVEL	BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Evaluation Scheme				Subject Total	Period			Credit	
						Assignment	T	A	Total		ESE	L	T		P
1	6.0	Professional Core Courses	Core Courses (CC)- Major	8PCCMiE404	Mine Legislation & Safety II	20	10	30	70	100	3	0	0	3	
2		Professional Core Courses	Core Courses (CC)- Major	8PCCMiE405	Mineral Processing Technology	20	10	30	70	100	3	0	0	3	
3		DEPARTMENTAL ELECTIVE COURSE II (Any one of the following subjects)					20	10	30	70	100	3	0	0	3
		Departmental Elective Course	Core Courses (CC)- Major	8DECMiE406	Mine Reclamation & Rehabilitation										
		Departmental Elective Course	Core Courses (CC)- Major	8DECMiE407	Clean Coal Technology										
		Departmental Elective Course	Core Courses (CC)- Major	8DECMiE408	Coal bed Methane Mining										
		Departmental Elective Course	Core Courses (CC)- Major	8DECMiE409	Socio Economic Impacts of Opencast Mines										
4		University Mandatory Course	Value Added Course (VAC)	8UMCI01	***Managing Personal Finance	40	10	50	0	50	1	0	0	0	
PRATICAL / SESSIONAL															
1	6.0	Professional Core Courses	Core Courses (CC)- Major	8PCCMiE405P	Mineral Processing Technology Lab			30	20	50	0	0	2	1	
2		Project	Project	8PROJMiE402	Mining Project Work II			100	100	200	0	0	6	6	
TOTAL										600				16	

*** Only Internal Exam will be conducted.

COURSE CATEGORY (NEP GUIDELINES)			SEMESTER WISE CREDIT	
Core Category	Credit	% Credit	SEMESTER	Credit
Core Courses (CC)- Major	80	48.48	Semester I	20
Core Courses (CC)- Minor	30	18.18	Semester II	20
Multidisciplinary Course (MDC)	15	9.09	Semester III	21
Ability Enhancement Courses (AEC)	7	4.24	Semester IV	23
Value Added Course (VAC)	11	6.67	Semester V	22
Skill Enhancement Course (SEC)	7	4.24	Semester VI	23
Summer Internship Course	3	1.82	Semester VII	20
Project	12	7.27	Semester VIII	16
TOTAL	165	100	TOTAL	165

COURSE CATEGORY (AICTE GUIDELINES)		
Core Category	Credit	% Credit
Basic Science Course	20	12.12
Engineering Science Course	21	12.73
Humanities and Social Sciences	13	7.88
Mandatory Course	3	1.82
University Mandatory Courses	2	1.21
Professional Core Courses	79	47.88
Departmental Elective Course	6	3.64
Open Elective Courses	6	3.64
Project	15	9.09
TOTAL	165	100