



JHARKHAND
Rai University

UGC RECOGNISED UNIVERSITY

ACCREDITED BY NAAC

Ref. No: JRU/CS&IT/2021/27

Date: 1.11.2021

**DEPARTMENT OF COMPUTER SCIENCE &
INFORMATION TECHNOLOGY**

NOTICE

The Department of Computer Science & Information Technology has scheduled competitive class for GATE exam on 05 .11.2021 at 11:00 am through Google Meet.


Coordinator

Department of CS/IT
Jharkhand Rai University, Ranchi

Copy to:

1. Registrar Office
2. Program Office
3. HoD/Coordinator of Faculty of Science & Engineering
4. Faculty Members

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MOCK SESSION TRACKING-MGMT			
Programme : MOCK INTERVIEW		Session : FALL 2021	
Subject: Mock Session		Year : 2021-22	Sem : MBA 3rd & BBA 5th
Commencement Date: 9th Oct21		Date of Closure: 18th Dec21	

Lecture No	Name of the Faculty	Topic to be covered	Date	Time	Tracking of Lectures	No. of students	Remarks of the Faculty	Remarks of the HOD/Placement Coordinator
1	Ms Piyali Das	How to introduce yourself in an interview	9th Oct21	10:15am-11:15am	How to prepare and practice before an interview	23	Low Attendance	Objective of this session was to make students well prepared for the interview
2	Prof. Rashmi	Job Search Strategy,Preparation of Resume, Key highlights of Resume, Shortlisting of Resume, Interview Process, Introduction	23nd Oct21	10:15am-11:15am	Job Search Strategy,Preparation of Resume, Key highlights of Resume, Shortlisting of Resume, Interview Process, Introduction	47	Students were interactive during the session	Focus of this session was on resume preparation
3	Dr. Ajitabh Dubey	How to face interview	30th Oct21	10:15am-11:15am	Expected questions to be asked during interview.How to answer questions during interview	40		Shared list of expected questions to get the students well prepared for the interview
4	Ms Piyali Das	Skill required to crack campus placements	13th Nov21	10:15am-11:15am	Taken on 20 Nov	20	Low Attendance	Focus of this session was on skill development of the
5	Ms Piyali Das	Skill required to crack campus placements	20th Nov21	12.00om-1.00pm	Skill required to crack campus placement	20	Low Attendance	Focus of this session was on skill development of the students

6	Prof. Rashmi	Job Interview Techniques, Techniques applied by the Interviewee to get a job of his choice in an organization	27th Nov21	10:15am-11:15am	Job Interview Techniques, Techniques applied by the Interviewee to get a job of his choice in an organization	39	Keen to know the process of online interview	Focus of this session was on techniques to choose a right organisation
7	Dr. Ajitabh Dubey	Setting write Job Expectations	4th Dec21	10:15am-11:15am	Discussion on how to do job targeting, Setting write salary expectations, Skills/knowledge required for targeted job	37	Good interactive session	This session was focussed on setting write expectations for the students
8	Ms Piyali Das	Live Interview	11th Dec21	10:15am-11:15am	Extra marks Interview was scheduled	15		Live Interview; 2students finally got selected
9	Prof. Rashmi	Online interview	18th Dec21	10:15am-11:15am	Discussion on how to face an online interview	34	Quite interactive the know the pros and cons of interview	Live Session for mock interview was conducted

Name & Signature of the HoD
Dr. Ajitabh Dubey

MOCK SESSION TRACKING-MGMT								
Programme : MOCK INTERVIEW				Session : SPRING 2022		Year : 2022		Sem : MBA 4th & BBA 6th
Subject: Mock Session								
Commencement Date: 14th Feb22				Date of Closure: 4June22				
Lecture No	Name of the Faculty	Topic to be covered	Date	Time	Tracking of Lectures	No. of students	Remarks of the Faculty	Remarks of the HOD/Placement Coordinator
1	Ms Piyali Das	Group discussion on 'Economic Crisis in Srilanka'.	25th Feb	10:15am-11:15am	Group discussion on 'Economic Crisis in Srilanka'.	27	Students shown interest during GD	Objective of this session was to make students well prepared for the Group discussion round.
2	Prof. Rashmi	Webinar on how to plan a future along with enjoying student life.	9th March	10:15am-11:15am	Planning for future, work life balance, choosing right career and tracking.	39	Students were interactive during the session	Focus of this session was on choosing right career path.
3	Dr. Ajitabh Dubey	Newspaper analysis	24th March	10:15am-11:15am	Newspaper analysis	31		Shared news to improve general knowledge and business related information.
4	Ms Piyali Das	Mock interview	20th April	10:15am-11:15am	Mock one to one interview	14	Low Attendance	Conducted one to one interview with the students.
5	Ms Piyali Das	Mock interview	27th April	12.00om-1.00pm	Mock one to one interview	16	Low Attendance	Conducted one to one interview with the students.
6	Prof. Rashmi	Tips for cracking an interview	19th may		Helpul tips and strategies for cracking an interview	15	Keen to know the tips for cracking an interview	Given some important tips for cracking interviews.

Placement Co-ordinator

Sonal Bharti

MOCK INTERVIEW TRACKING									
Programme : B.Sc(H) Ag				Session : 2018-2022			Year :2021		Sem:VII
Subject:MOCK SESSION				Mock Session					
Commencement Date:25.09.2021						Date of Closure: 30.12.2021			
Lecture No	Name of the Faculty	Topic to be covered	Date	Time	Tracking of Lectures	No. of student	Remarks of the Faculty	Remarks of the HOD/Placement	
1	Dr.Neeraj	Job search and career planning	25.09.2021	4:00-5:00	Different job opportunities in agriculture, websites link for different jobs and skills need to enhance, resources to gain agricultural knowledge	36	Students got to know about different job oppoutunity in the agriculture field	Session was taken to ensure students must read newspaper, watch news and read competitive exam	
2	Ms Piyali Das	How to introduce yourself in an Interview	09.10.2021	3.00-4.00pm	Dressing sense,communication skill & introducing yourself	32	Students were prepared to introduce themselves for interviews	Objective of this session was to make students well prepared	
3	Prof.Rashmi Raj	Job Search Strategy,Preparation of Resume, Key highlights of Resume, Shortlisting of Resume, Interview Process, Introduction	23.10.2021	11.30 - 12.30	Job Search Strategy,Preparation of Resume, Key highlights of Resume, Shortlisting of Resume, Interview Process, Introduction	34	Students were prepared/taught to prepare thr resume etc	Session was on resume preparation	
4	Prof. Sushma Priya	Carrier prospects after agriculture	28.10.2021	3:00-4:00	Scope after B.Sc. Agriculture	36	Carrier prospects after agriculture	Carrier prospects after agriculture	
5	Dr.Neeta	Personality Development	13.11.2021	11:00-12:00	How to enhance the Personality	32	Personality grooming	Session was conducted for grooming their personality	
6	Ms Piyali Das	Skill required to crack campus placement	20.11.2021	12.00-1.00 pm	What skill you should develop and how	40	Skill required to crack campus placement	Skill required to crack campus placement	
7	Dr. Hemlata Kumari	Important tips for interview	04.12.2021	4:00-5:00	Important tips for interview	14	Important tips for interview	Mock interview	
8	Ms Piyali Das	Common Interview questions and answers for freshers	27.12.2021	3.15 - 4.15 pm	Common Interview questions and answers for freshers	26	Common Interview questions and answers for freshers. One to one interview session	Shared list of expected questions to get the students well prepared for the interview	

Ref. No: JRU/MiE/21/022

Date: 12/08/2021

NOTICE

Students of B.Tech Program are hereby informed that the Department of Mining Engineering is planning to schedule “**GATE PREPARATION CLASSES**” for all gate aspirants from 16th August, 2021. The classes will be conducted online through MOODLE platform. The interested students should fill the nomination form for the aforesaid classes.

Nomination Form Link:

<https://forms.gle/gKFEYTd3CY9BXMg4A>



Course Coordinator
Department of Mining Engineering
Jharkhand Rai University, Ranchi

Copy to:

1. Registrar Office
2. Program Office
3. Faculty Members

FALL 2021



Time Table of Department of Mining Engineering in Online Mode

FALL SEMESTER 2021 W.E.F 06.09.2021

Day / Course	8.15-9.15	9.15-10.15	10.15-11.15	11.15-12.15	12.15-1.15	1.15-2.15	2.15-3.15	3.15-4.15	4.15-5.00
Monday	Monday	Monday	Monday	Monday	Monday	Monday	Monday	Monday	Monday
B. Tech. V Mining		MM I - Prof Umesh	NMM Prof. Koli	UCM-Prof. Suraj	SM-Prof. Sumect	LUNCH	RM-Prof Umesh	PS-Prof. Anita	
B. Tech. VII Mining		DOPM-Prof. Suraj	EAM-Prof Umesh	MEE-Prof. Sumect	MM II-Prof. Mritunjay	LUNCH			
Dip.In Engg. III Mining			MS I-Prof. Shashank	ME-Prof. Kamlesh	AM-Prof. Koli	LUNCH	IM-Prof. Suraj	DM-Prof. VPS	CSS-Prof. Suraj
Dip.In Engg. V Mining					LUNCH	SEE-Prof. Suraj	MEE-Prof. Sumect	MS II-Prof. Mritunjay	MM II-Prof. Suraj
Tuesday	Tuesday	Tuesday	Tuesday	Tuesday	Tuesday	Tuesday	Tuesday	Tuesday	Tuesday
B. Tech. III Mining			MG-Prof. Mritunjay	EM-Prof. Abhishek	MS I-Prof. Shashank	LUNCH	Mathematics III-Prof. Koli		
B. Tech. V Mining		MM I-Prof Umesh	NMM Prof. Koli	UCM-Prof. Suraj	SM-Prof. Sumect	LUNCH	RM-Prof Umesh	RS & GIS (MOOCs)-Prof. Sumect	
B. Tech. VII Mining		DOPM-Prof. Suraj	EAM-Prof Umesh	MEE-Prof. Sumect	MM II-Prof. Mritunjay	LUNCH	DSSP, MOOCs-Prof. Anita		
Dip.In Engg. III Mining			MS I-Prof. Shashank	ME-Prof. Kamlesh	AM-Prof. Koli	LUNCH	DM-Prof. VPS	IM-Prof. Suraj	CSS-Prof. Suraj
Dip.In Engg. V Mining					MM II-Prof. Suraj	SEE-Prof. Suraj	MEE-Prof. Sumect	MS II-Prof. Mritunjay	Tutorial SM-Prof. Umesh
Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday
B. Tech. V Mining		Tutorial RM/ MM I-Prof. Umesh	NMM Prof. Koli	Tutorial UCM-Prof. Suraj	Tutorial SM-Prof. Sumect	LUNCH	PS-Prof. Anita	COI-Prof. Prashant	
B. Tech. VII Mining		Tutorial DOPM/MLS I-Prof. Suraj	Tutorial MEE-Prof. Sumect	Tutorial EAM-Prof. Umesh	Tutorial MM II-Prof. Mritunjay	LUNCH	LUNCH	MLS I-Prof. Suraj	
Dip.In Engg. III Mining			Tutorial MS I-Prof. Shashank	Tutorial ME-Prof. Kamlesh	Tutorial AM-Prof. Koli	LUNCH	Tutorial DM-Prof. VPS	MG I-Prof. Umesh	
Dip.In Engg. V Mining				Tutorial MS II/ MV-Prof. Mritunjay	LUNCH	Tutorial MM II-Prof. Suraj	Tutorial MEE-Prof. Sumect	MV-Prof. Mritunjay	SM-Prof. Umesh
Thursday	Thursday	Thursday	Thursday	Thursday	Thursday	Thursday	Thursday	Thursday	Thursday
B. Tech. V Mining		RM Lab-Prof. Umesh	COI-Prof. Prashant	RS & GIS (MOOCs)-Prof. Sumect	LUNCH	LUNCH	GATE PREPARATION CLASSES (ALL B.TECH) - Prof. Mritunjay		
B. Tech. VII Mining		MEE Lab-Prof. Sumect	MOCK INTERVIEW Prof. Sumect	MLS I-Prof. Suraj	LUNCH	LUNCH			
Dip.In Engg. III Mining			MG I-Prof. Umesh	MS I Lab-Prof. Shashank	ME Lab-Prof. Kamlesh	LUNCH	LUNCH	Tutorial IM-Prof. Suraj	Tutorial/Lab MG I-Prof. Umesh
Dip.In Engg. V Mining						LUNCH	MVEE Lab-Prof. Sumect	SM-Prof. Umesh	MV-Prof. Mritunjay
Friday	Friday	Friday	Friday	Friday	Friday	Friday	Friday	Friday	Friday
B. Tech. V Mining			MENTORING SESSION-Prof. Umesh		GATE PREPARATION CLASSES (ALL B.TECH) - Prof. Sumect	LUNCH	GATE PREPARATION CLASSES (ALL B.TECH) - Prof. Mritunjay	GATE PREPARATION CLASSES (ALL B.TECH) - Prof. Umesh	
B. Tech. VII Mining			MENTORING SESSION-Prof. Mritunjay			LUNCH			
Dip.In Engg. III Mining			MENTORING SESSION-Prof. Suraj	LS I-Prof. Suraj (Only for lateral students)		LUNCH			
Dip.In Engg. V Mining			MENTORING SESSION-Prof. Sumect			LUNCH			

Mock Interview Sessions

Programme: B.TECH 2018 batch
 Specialization: MINING

Year: 2021

Semester: VII

FALL 2021

Lecture No.	Date	Area/FAQs Covered	No. of Students Present	Signature of Faculty	Signature of HOD
1	9/9/2021	How to prepare for GATE examination & Books to be referred?	60	☺	
2	16/9/2021	Discussion on Mineral Economics with job prospects	59	☺	
3	23/9/2021	Discussion on Mineral Economics with job prospects	65	☺	
4	30/9/2021	Underground working Environment of mine	63	☺	
5	7/10/2021	How to prepare for GATE examination & Books to be referred?	66	☺	
6	21/10/21	Effect of Coal Dust explosion on environment	65	☺	
7	28/10/21	PREPARATION FOR MINES INSPECTOR	34	☺	
8	18/11/2021	GD ON RENEWABLE ENERGY	42	☺	
9	25/11/21	GD ON CLEAN COAL TECHNOLOGY	52	☺	
10	2/12/2021	PREPARATION FOR FIRST AID EXAM	43	☺	

Programme:
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14	D
15	D
16	D
17	DI
18	DI
19	DI
20	DI
21	DI
22	DE
23	DE
24	DE
25	DE
26	DE

First name	Surname	9 Sep 2021		16 Sep 2021		23 Sep 2021		30 Sep 2021		7 Oct 2021		21 Oct 2021		28 Oct 2021		18 Nov 2021		25 Nov 2021		2 Dec 2021		Taken sessions	P	L	A
		All	students	All	students	All	students	All	students	All	students	All	students	All	students	All	students	All	students	All	students				
SHOAB	AKHTER	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	3	0	7
BOMMAKOLLA	BHARATH KUMAR REDDY	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	6	0	4
KONDAPARTI	BHARGAV	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	8	0	2
NIKHIL	BHARTI	P (2/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	7	0	3
YERAPUREDDY	BHUVANESHWAR REDDY	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	9	0	1
SUBRATO	CHAKRABORTY	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	7	0	3
BARLA	DILEEP	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	8	0	2
THOTA	HARSHAVARDHAN REDDY	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	8	0	2
GUBBA	HEMALINGESHWAR REDDY	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	7	0	3
GOPAGONI	HEMANTH	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	9	0	1
ATHE	KARTHIK	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	9	0	1
ARVIND	KUMAR	A (0/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	6	0	4
ASHOK	KUMAR	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	7	0	3
BANTI	KUMAR	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	9	0	1
KUNAL	KUMAR	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	7	0	3
RAJ	KUMAR	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	5	0	5
RAJAN	KUMAR	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	7	0	3
RITESH	KUMAR	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	10	0	0
ROSHAN	KUMAR	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	8	0	2
TILAK	KUMAR	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	8	0	2
UPESH	KUMAR	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	9	0	1
VIJAY	KUMAR	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	4	0	6
VIKASH	KUMAR	A (0/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	8	0	2
RAJAN	KUMAR CHAURASIYA	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	7	0	3
ANIL	KUMAR MAHTO	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	4	0	6
ISHWAR	KUMAR MAHTO	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	4	0	6
ABHISHEK	KUMAR PATEL	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	8	0	2
RITESH	KUMAR SWARNIKAR	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	8	0	2
ASHISH	KUMAR TIWARI	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	9	0	1
GUJJULA	LAKSHMIPATHI NAIDU	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	5	0	5
DEVENDRA	MAHTO	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	8	0	2
SUBHAJIT	MAJI	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	8	0	2
MIDDE	MANIKANTHESWAR	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	10	0	0
SADULA	MUKESH	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	7	0	3
PODAKANTI	MURALI	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	9	0	1
PERNAPATI	NABRAHIMENDRA CHARI	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	10	0	0
SANTOSH	ORAON	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	8	0	2
SANDEEP	PATEL	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	7	0	3
MARATI	PAVAN	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	10	5	0	5
PAYYAVULA	PAVANI KALYAN	P (2/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	A (0/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	P (2/2)	10	8	0	2
																						10	8	0	2

Section 1: Engineering Mathematics:

Linear Algebra: Matrices and Determinants; Inverse and Rank of matrix; Systems of linear equations; Eigen values and Eigen vectors. Cayley-Hamilton Theorem.

Calculus: Limit, continuity and differentiability; Partial Derivatives; Mean value theorems; Indeterminate forms and L' Hospital's rule; Maxima and minima; Taylor's theorem; Sequences and series; Test for convergence; Fourier series.

Vector Calculus: Gradient; Divergence and Curl; Line; surface and volume integrals; Stokes, Gauss and Green's theorems.

Differential Equations: Linear and non-linear first order ODEs; Higher order linear ODEs with constant coefficients; Cauchy's and Euler's equations.

Probability and Statistics: Measures of central tendency and dispersion; hypothesis testing; Binomial, Poisson, exponential and normal distributions; Correlation and regression analysis.

Numerical Methods: Solutions of linear algebraic equations; Interpolation; Integration of trapezoidal and Simpson's rule; Single and multi-step methods for differential equations.

Section 2: Mining Geology, Mine Development and Surveying:

Mining Geology: Minerals, Rocks and their Origin, Classification, Ore Genesis; Structural Geology.

Mine Development: Methods of access to deposits; Underground drivages; Drilling method and machines; Explosives and energetics, blasting devices, blast design practices; Rock-Tool Interaction applicable to mechanical cutting systems and their selection.

Mine Surveying: Levels and levelling, theodolite, tacheometry, triangulation; Contouring; Errors and adjustments; Correlation; Underground surveying; Curves; Photogrammetry; EDM, Total Station, GPS, Basics of GIS and remote sensing.

Section 3: Geomechanics and Ground Control:

Engineering Mechanics: Equivalent force systems; Equations of equilibrium; Two dimensional frames and trusses; Free body diagrams; Friction forces; Particle kinematics and dynamics; Beam analysis.

Geomechanics: Geo-technical properties of rocks; Rock mass classification; Instrumentation and in-situ stress measurement techniques; Theories of rock failure; Ground vibrations; Stress distribution around mine openings; Subsidence; Slope stability.

Ground Control: Design of pillars; Roof supporting systems; Mine filling. Strata Control and Monitoring Plan.

Section 4: Mining Methods and Machinery:

Mining Methods: Surface mining: layout, development, loading, transportation and mechanization, continuous surface mining systems; highwall mining; Underground coal mining: bord and pillar systems, room and pillar mining, longwall mining, thick seam mining methods, Underground metal mining: open, supported and caved stoping methods, stope mechanization, ore handling systems.

Mining Machinery: Generation and transmission of mechanical, hydraulic and pneumatic power; Materials handling: wire ropes, haulages, conveyors, face and development machinery, hoisting systems, pumps; comminution methods and machinery.

Section 5: Surface Environment, Mine Ventilation and Underground Hazards:

Surface Environment: Air, water and soil pollution: Standards of quality, causes and dispersion of contamination and control; Noise pollution and control; Land reclamation; EIA.

Mine Ventilation: Underground atmosphere; Heat load sources and thermal environment, air cooling; Mechanics of airflow, distribution, natural and mechanical ventilation; Mine fans and usage; Auxiliary ventilation; Ventilation survey and planning; Ventilation networks.

Underground Hazards: Mine Gases, Methane drainage; Underground hazards from fires, explosions, dust and inundation; Rescue apparatus and practices; Safety management plan; Accident data analysis; assessment; Mine lighting; Mine legislation; Occupational health and safety.

Section 6: Mineral Economics, Mine Planning, Systems Engineering:

Mineral Economics: Mineral resource classification; Discounted cash flow analysis; Mine valuation; Mineral taxation.

Mine Planning: Sampling methods, practices and interpretation; Reserve estimation techniques; Basics of geostatistics and quality control; Optimization of facility location; Mine planning and its components, Determination of mine size and mine life; Ultimate pit configuration and its determination, Optimum mill cut-off grade and its determination, Stope planning, Design of haul road, Selection of mining system vis-à-vis equipment system.

Systems Engineering: Concepts of reliability; Reliability of simple systems; Maintainability and availability; Linear programming, transportation and assignment problems; Network analysis; Inventory models; Queuing theory; Decision trees.

1.3. Opencast Mining

1.3.1 Definition : In this type of mining, all the layers cover the mineral block/ coal extracted to make the access to mineral/coal deposit. The overburden material extracted dump in the area not bearing the mineral/coal block. This type of mining method also called open-pit mining, surface mining and strip mining. Selection of the opencast mining method depends on the stripping ratio.

1.3.2 Stripping Ratio : It can be defined as the ratio of volume of overburden removed to weight of recoverable mineral reserve. Economy of the mining depends on the depth of the overburden because the depth increases, cost of extraction of the overburden material increases.

$$\text{Stripping Ratio} = \frac{\text{Weight of recoverable mineral reserve in tonne}}{\text{Volume of overburden in cubic meter}}$$

1.3.3 Break-even Stripping Ratio : The point beyond which the mineral/ coal cannot be economically extracted out is called the break-even stripping ratio. It can be also defined as the ratio of excess cost required to produce per tonne mineral/coal by underground mining method in comparison to the opencast mining method to the stripping cost per cubic meter of overburden by the opencast method.

$$\text{Break-even Stripping Ratio} = \frac{(\text{Recoverable price per te of ore}) - (\text{O.C. production cost per te of ore} + \text{Profit margin per te of ore})}{\text{Cost of extraction per cubic meter of overburden material}}$$

1.3.4 Determination of Stripping Ratio : The stripping ratio of the block shown in Figure 1.6 and Figure 1.7 can be determined as given below.

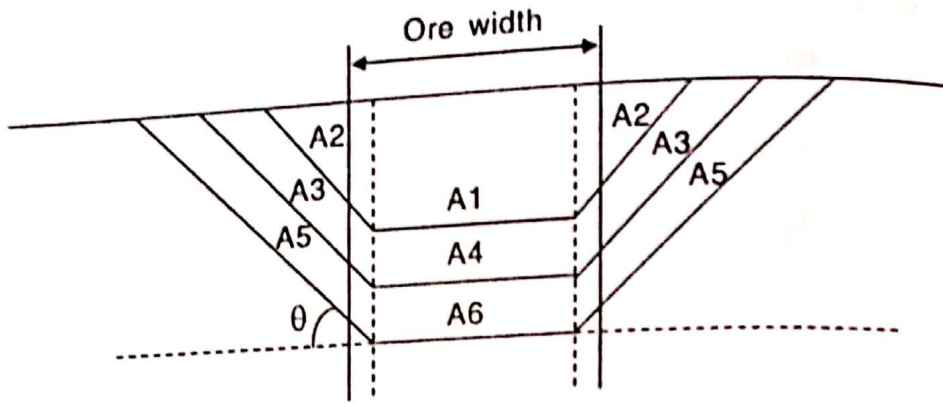


Figure 1.6 : Excavation of Ore Block

$$\text{Overall Stripping Ratio (SR)} = \frac{V_w * \rho_w(\text{waste})}{V_o * \rho(\text{ore})}$$

$$= \frac{A_1 + 2A_2 + 2A_3 + 2A_5}{A_4 + A_6}$$

Where, $A_1, A_2, A_3, A_4, A_5, A_6$: area of cross section of zone shown in the above figure.

V_w = volume of waste material

ρ_w = density of waste material

V_o = volume of overburden material

ρ_o = density of overburden material

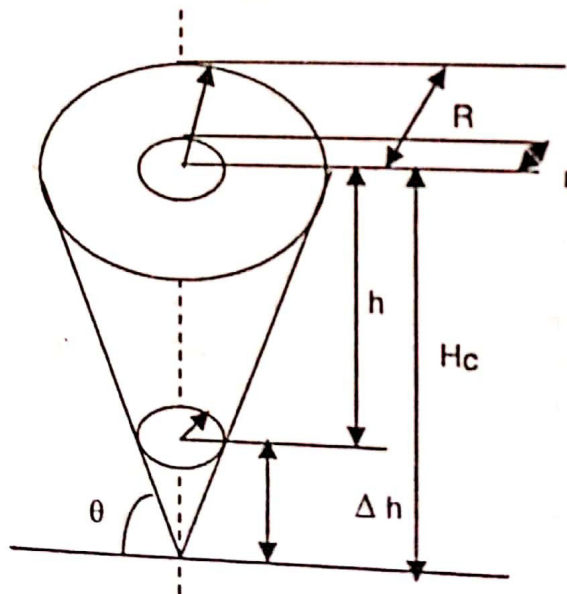


Figure 1.7 : Excavation of Ore Block

Overall Stripping Ratio (SR)

$$= \frac{v_w * \rho_w(\text{waste})}{v_o * \rho_o(\text{Ore})} = \frac{\left(\frac{1}{3} \pi R^2 H_c - \frac{2}{3} \pi r^2 \Delta h \right) * \rho_w}{\frac{1}{3} \pi r^2 \Delta * \rho_o}$$

1.3.5 Parameters of the Working Bench : In a working bench of opencast mine, the basic parameters are shown in Figure 1.8 and Figure 1.9

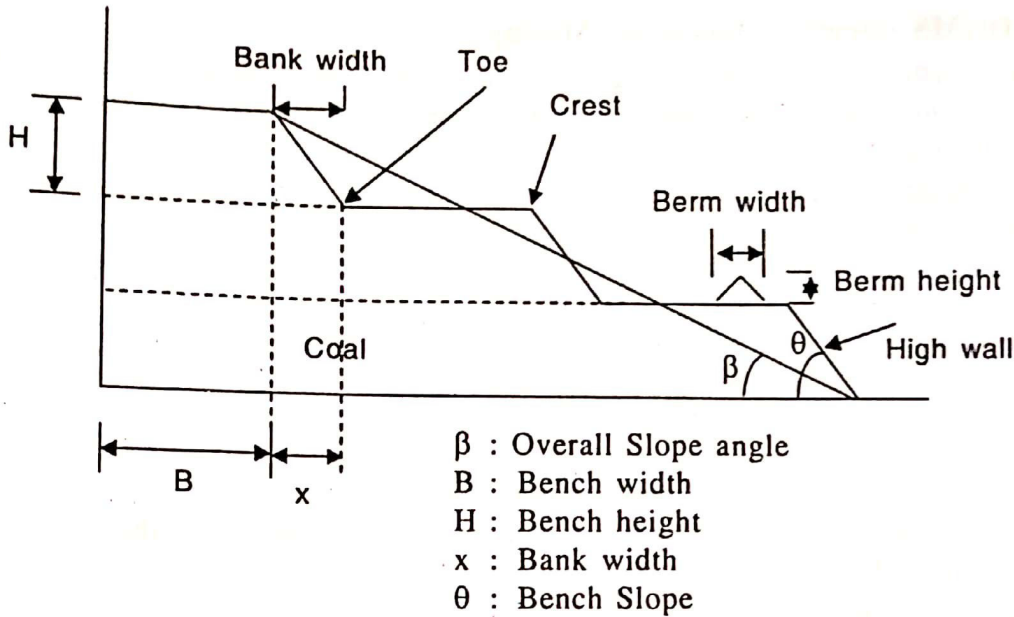


Figure 1.8 : Working Bench of Opencast Mine

$$\text{Overall Slope Angle } (\beta) = \tan^{-1} \frac{3H}{2B+3x} = \frac{3H}{2B+3\frac{H}{\tan\theta}}$$

Definition of the terms

- **Spacing (S)** : Distance between the two holes in the same row called spacing
- **Burden (B)** : Distance between the crest of the bench and 1st row of drill holes or the distance between the two rows of holes called burden.
- **Height of the bench (H)** : Vertical distance between the benches called the bench height.
- **Width of the bench** : This is the horizontal gap between the toe of the upper bench to the crest of the lower bench. This should be always greater than the height of the bench.
- **Safety Berms** : This can be referred to the piles of rock material near the crest of the bench to improve the safety the mine safety.
- **Bank width** : This is the horizontal projection of the slope face.
- **Ramps** : This is the passage to make the access from one level to another level. Maximum permissible gradient of this passage is 1 in 10.

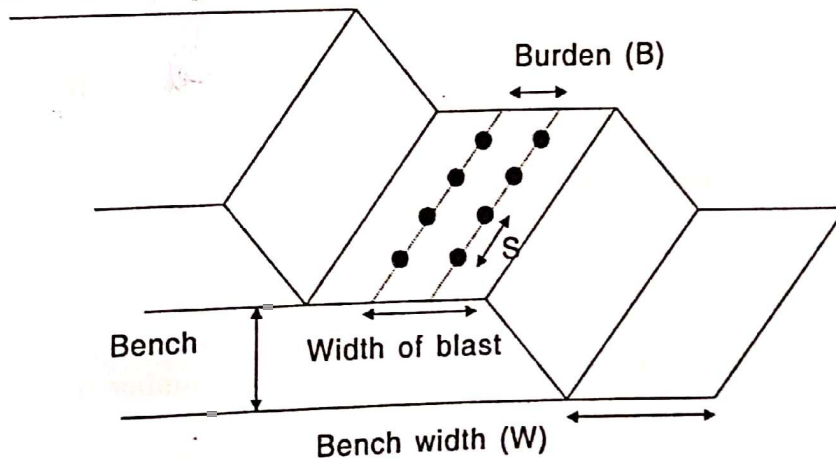


Figure 1.9 : Working Bench of Opencast Mine

1.3.6 DGMS norms in Opencast Mining

- In alluvium soil, morum, gravel, clay, debris or other soft ground slope of the benches shall not exceed 45° from the horizontal or the sides shall be kept benched and the height of the bench shall not exceed 1.5 m and the breadth shall not be less than the height.
- In coal, slope of the benches shall not exceed 45° from the horizontal or the sides shall be kept benched and the height of the bench shall not exceed 3 m and the breadth shall not be less than the height.
- In alluvium soil, morum, gravel, clay, debris or other soft ground, if any pillar is left for the purpose of measurement, its height shall not exceed 2.5 m and where the height of such pillar exceeds 1.25 m, the base of the pillar shall not be less than 1.5 m in diameter.
- Maximum gradient of the haul road is 1 in 14.
- The permissible length of the trailing cable in opencast mines is 300 m as per IER.

1.3.7 Types of Ramps

- **Spiral** : It is not suitable where there is a problem of slope stability. But this layout is preferable when the pit wall is very steep.
- **Switch-back** : This is not spiral in nature but the road turns 180° at the end of the extent.
- **Zigzag** : There is not any uniformity in this type of layout. This type of layout changes the path to make the access to the lower level as per the availability of the suitable/ stable area.

1.3.8 Determination of number of faces required for a target production of 'y'

Assume :

Height of bench = H

Width of the bench = W

Spacing = S

Burden = B

Density of ore = γ

Working days per year = D

Working days per week = 6

Maximum length of face = L

Two rows of blasting in a round [Total width of blast = $2*B$]

Production per hole = $H * B * S * \gamma$

Production required per week = $\frac{Y*6}{D}$

Number of holes required per week = $\frac{\left(\frac{Y*6}{D}\right)}{H*B*S*\gamma}$

Length of face required to accommodate above number of holes

$$= \frac{\left(\frac{Y*6}{D}\right)}{H*B*S*\gamma} * \frac{\text{Spacing (s)}}{\text{Number of rows (2)}} = \frac{Y*6*S}{2*H*B*S*\gamma*D} = \frac{Y*3}{H*B*\gamma*D}$$

For production at shovel face another face of the same length is required for drilling at the same time.

$$\text{Length of the face} = \frac{Y * 3 * 2}{H * B * \gamma * D}$$

Again for grade control another face length of the same size required

$$\text{Total face length required} = \frac{Y * 3 * 2 * 2}{H * B * \gamma * D}$$

$$\text{Number of bench required} = \frac{Y * 12}{H * B * \gamma * D} * \frac{1}{L} = \frac{Y * 12}{H * B * \gamma * D * L}$$

1.3.9 Determination of Powder Factor

$$\begin{aligned} \text{Powder Factor (PF)} &= \frac{\text{Production per hole (te)}}{\text{Explosive consumption per hole (kg)}} \\ &= \frac{H * b * S * \gamma}{\left(\frac{\pi * d^2}{4}\right) * (H - h) * \gamma_e} \end{aligned}$$

Where, γ_e = specific gravity of explosive
 h = length of stemming
 d = diameter of the blast hole

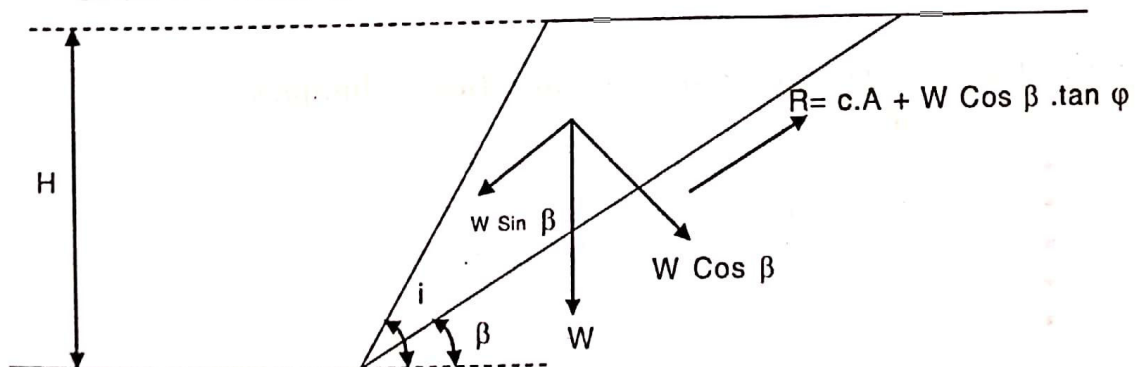
1.3.10 Types of slope failure

There are four types of slope failure occurs in the mining areas. These are as follows :

- Circular failure
- Plane failure
- Wedge failure
- Toppling failure

1.3.11 Determination of Factor of Safety of the Slope

CASE I : When there is no tension crack and water pressure



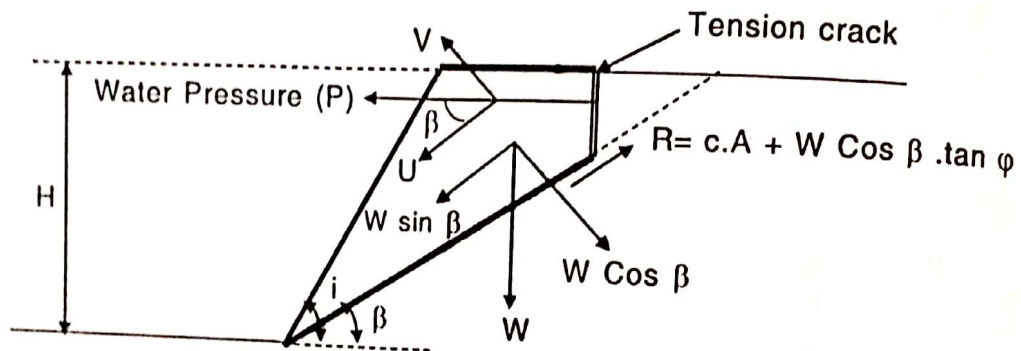
Assuming
 Height of the bench = H
 Overall slope angle from horizontal = i
 Angle of discontinuity from horizontal = beta
 Weight of the block = W

Friction angle $= \phi$
 Cohesion $= c$
 Area of the failure plane $= A$
 Total force tending to induce sliding of the block $= W \cdot \sin \beta$
 Total force to resist sliding of the block $= W \cdot \cos \beta \cdot \tan \phi + c \cdot A$
 [Neglecting the water pressure]

$$\text{Factor of Safety (F.O.S.)} = \frac{\text{Total force to resist sliding}}{\text{Total force tending to induce sliding}}$$

$$\Rightarrow F.O.S. = \frac{c \cdot A + W \cdot \cos \beta \cdot \tan \phi}{W \cdot \sin \beta}$$

CASE II : When there is tension crack and water pressure present



Water pressure along the sliding plane $= U = P \cdot \cos \beta$
 Water pressure normal to the sliding plane $= V = P \cdot \sin \beta$
 Total force tending to induce sliding of the block $= W \cdot \sin \beta + U$
 Total force to resist sliding of the block $= (W \cdot \cos \beta - V) \cdot \tan \phi + c \cdot A$
 [Neglecting the water pressure]

$$\text{Factor of Safety (F.O.S.)} = \frac{\text{Total force to resist sliding}}{\text{Total force tending to induce sliding}}$$

$$\Rightarrow F.O.S. = \frac{c \cdot A + (W \cdot \cos \beta - V) \cdot \tan \phi}{W \cdot \sin \beta + U}$$

1.3.12 Pit Limit Optimization : Optimization techniques
 are as follows :

- Heuristic technique
- Dynamic programming
- Linear Programming (Integer Programming)
- Network flow theory
- Graph theory