



ODISHA STAFF SELECTION COMMISSION
UNIT – II Bhubaneswar – 751001

Advertisement No.IIE-68/2022-5944/OSSC;

Date: 23-09-2022.

Recruitment to the posts of Junior Mining Officer as “Initial Appointee” under Director of Mines, Odisha,
Bhubaneswar
(POST CODE: 217)

1. Application Invited:

- i. Applications are invited online through the OSSC website “www.osscc.gov.in” for recruitment to the post of Junior Mining Officer as “Initial Appointee” under Director of Mines, Odisha, Bhubaneswar.

	Start Date	End Date
Online Registration	28.09.2022	27.10.2022
Submission of Online Application Form	28.09.2022	27.10.2022
Mode of Application	Online Mode only through the website “www.osscc.gov.in”. No Physical copy/Hard copy of the Online Application Form need to be submitted by the applicant.	

- ii. Candidates must have their valid e-Mail Id and Mobile number while applying for the post and keep the same active till completion of this recruitment process, so as to receive important messages from the Commission.
- iii. The appointment will be as “Initial Appointees” carrying a remuneration as given below as per Govt. in G.A. & P.G. Department Notification No.28626-GAD-SC-RULES-0037/2017/Gen dated 27th October 2021 in respect of Group-B posts. Their appointment shall be guided by Odisha Group-B (Contractual Appointment) Rules, 2013 and as amended up to date and as per Odisha Subordinate Mineral Administration Service (Method of recruitment and conditions of service of Junior Mining Officer and Assistant Mining Officer) Rules-2021 notified vide Department of Steel and Mines Notification No.7067 dated 03.09.2021. The remuneration is subject to revision as per decision of the Government of Odisha from time to time.

Name of the post	Group	Consolidated monthly remuneration for first year
Junior Mining Officer	Group-B	Rs. Rs.25,300/- per month

- a) NO EXAMINATION FEE IS PAYABLE FOR THE POST.
- b) Candidates should ensure that they fulfil all the eligibility criteria prescribed for the post as laid down in the advertisement. Admission of a candidate to the written examination & other tests shall be provisional and on the basis of information furnished by her/his in the Online Application Form.
- c) Online applications submitted to OSSC if found incomplete in any respect are liable for rejection without entertaining any correspondence with the applicants on that score.
- d) **If at any stage of recruitment or thereafter, it is found that any information furnished by the candidate in her/his Online Application Form is false/incorrect or the candidate has suppressed any relevant information or the candidate otherwise does not satisfy the eligibility criteria prescribed for the post, her/his candidature for the posts shall be cancelled.** She/ He may further be debarred either temporarily or permanently from the recruitment examination(s) conducted by the Commission.
- e) No Admission Letter for the recruitment at any stage shall be sent by post. The candidates are therefore advised to be in touch with the Commission's website "www.osscc.gov.in" regularly to know updates regarding the status of their application, date of examination, downloading of Admission Letter etc.
- f) The candidates are advised to submit the Online Application Form well in advance without waiting for the closing date to avoid last hour rush.

Important instructions to candidates about filling up of Online Application is enclosed as Annexure-A to this advertisement.

2. a) Category-wise break -up of vacancy position along with reservation thereof:

Name of the Post	Vacancy Position					Vacancies for Special Categories		
	SC	ST	SEBC	UR	Total	EX-SM	PwD	Sports Person
Junior Mining Officer	05 (w-02)	07 (w-02)	Nil	14 (w-05)	26 (w-09)	Nil	01	Nil

N.B:- Candidates belonging to Transgender community are also eligible to apply.

- b) As per the Social Security & Empowerment of Persons with Disabilities Department, Govt. of Odisha Resolution No.1843/SSEPD Dtd.25.02.2021 the PwD candidates having not below 40% permanent disability in the following category and Benchmark disability shall be eligible to apply for the post.

Category	Types of Disabilities	No. of vacancy
Category-II	Hearing Impaired (Hard of Hearing with suitable aid)	01

The physical requirement of PwD candidates for the post is as follows:

Code	Physical Requirement
H	Work Performed by Hearing/Speaking

- c) PwD candidates must ensure that they possess not less than 40% permanent disability certificate of the benchmark disabilities as at Clause-2(b) and must upload the scanned copy of the original (not photocopy) UDID card issued by competent authority.
- d) In case of non-availability of eligible/suitable Women candidates belonging to the respective categories the unfilled vacancies of that category shall be filled up by eligible or suitable male candidate(s) of the same category.
- e) The number of vacancies and reservation of Vacancies to be filled up on the basis of this recruitment are subject to change without any prior notice as per discretion of the Commission, the Requisitioning Authorities and the Government.

3. Eligibility:

(a) General criteria of eligibility: -

Candidate applying for the above post should be

- a citizen of India,
 - of good character,
 - of sound health, good physique and free from organic defects or bodily infirmity (Not applicable to physically Challenged candidates)
 - If married, must not have more than one spouse living
 - Must be able to read, write and speak Odia fluently and :-
- i. Must have passed Middle School Examination with Odia as language subject, or
 - ii. Must have passed HSC Examination or equivalent examination with Odia as Medium of examination in non-language subject, or
 - iii. Must have passed in Odia as language subject in the final examination of Class-VII or above, or
 - iv. Must have passed a test in Odia in Middle English School standard conducted by the School and Mass Education Department.

(b) Minimum Educational Qualification :

The candidate must have possessed at least 2nd Class Diploma Certificate in Mining Engineering from any recognized Polytechnic/Courses in India or any other certificate from any recognized Polytechnic or Courses or Board duly recognised/approved by AICTE considered equivalent to the diploma in Mining Engineering.

Note: Diploma in Mining Engineering (3 years) certificate issued by Institution/Polytechnic approved by the All India Council for Technical Education (AICTE) shall be considered for the post.

(C) Age:

- i. A candidate must have attained the age of (Twenty-one) 21 years and must not be above the age of (Thirty-eight) 38 years as on **1st January 2022**. The upper age limit is relaxable by 5 years for candidates belonging to SEBC, SC, ST & all Women candidates, 10 years for candidates belonging to PwD category & the total period of service rendered in defence service in case of Ex-servicemen. PwD candidates in the ST & SC category shall be entitled to cumulative age relaxation of ten years over & above the normal relaxation specified for the category. However, a candidate who comes under more than one category shall be eligible for only one benefit of age relaxation as per rule which will be more beneficial to her/him. To be eligible, candidates not enjoying any relaxation of upper age limit, must not have been born earlier than **2nd January, 1984** and not later than **1st January 2001**. The Ex-serviceman who have already secured regular employment under the State Government in Civil Post and services would be permitted the benefit of age relaxation as admissible for Ex-serviceman for the securing another employment in any higher post and services under the state Govt.
- ii. The persons in Defence Forces who are to retire within six months from the last date of Online Application form are eligible to apply on obtaining NOC from the Appropriate Authority indicating there in the date of enrolment and expected date of discharge and year of service rendered in Defence Forces. They should note that they must submit the discharge certificate on the date of certificate verification for considering their claims of age relaxation under Ex-Serviceman category

(NOTE: Border Security Force, Indian Coast Guard, CRPF and other Para Military Forces are not within the definition of Ex-Servicemen.)

- iii. The upper age limit is relaxable for the candidates coming under Rule-8(a) of Odisha Group-B & Group C posts (Contractual Appointment) Rules, 2013 as per rules provided that they satisfy the conditions mentioned therein. They must be less than 45 years as on 01.01.2022. They should



upload their self-attested copies of their appointment letter(s) for the entire period of contractual engagement in the online application form. If they have different spells of engagement, it should be mentioned clearly in the online application and such appointment letter shall be uploaded. Such candidates shall keep the original appointment letter in support of their claim with them for verification during certificate verification.

- iv. Date of Birth entered in the High School Certificate Examination by the Board of Secondary Education, Odisha or equivalent Certificate issued by the recognised Board/Council/ by an Indian University as equivalent there to shall be acceptable by the Commission.
- v. A candidate who claims change in her/his name after having passed the High School Certificate Examination is required to furnish copy of publication of the changed name in local leading daily newspaper as well as copy of notification in the Odisha Gazette in support of her/his change of name.

[For important instructions about filling up online application and “How to Apply” refer Annexure “A’ enclosed].

4. (a) Plan and pattern of Examination:

There shall be two stages of examination

- (i) Main written Examination
- (i) Certificate Verification

Stages of Examination	Type of Examination	Name of Paper	Marks allotted	Remarks
Stage-I	Main Written Examination (to be held in Pen & Paper)	Paper-I	100	Both Papers of Main Written examination shall be conducted in pen and paper.
		Paper-II	100	
Stage-II	Certificate verification		--	Candidates up to 2(two) times the vacancies advertised in each category in order of merit basing on sum total of marks in Paper-I & Paper-II of Main Written Examination shall be shortlisted for the verification of original documents. The candidate who fails to attend the document verification, will not be considered for the post.
	Total		200 Marks	

Note:- The detail syllabus for Main Written Examination is enclosed in “Annexure-C”



- (b) The candidates those who fail to appear in any stage of the recruitment process will not be considered for final selection and their names will be deleted from the merit list.
- (c) Any complaint on the conduct of examination must be sent to the commission by email “support.osscc@gov.in” within 05(five) days of completion of examination.

5) Place and Date of written examination:

- a) Tentative month for Main written examination will be December-2022/January-2023. The exact Date, Time and Venue will be conveyed in due course through Notice and/or Admission Letter.
- b) The Date, Time and Venue for Main Written Examination / Certificate Verification will be conveyed to the candidates in the Admission Letter(s) in due course. The Admission Letters can be downloaded by the eligible candidates by accessing the Commission’s website from time to time.

6) Certificate verification and submission of Detailed Application Form (DAF):

Basing on the performance in the Main Written Examination candidates 02 (two) times of the vacancies notified, in order of merit, category wise, shall be shortlisted for verification of original certificates/documents.

The candidates will be required to produce their Original Academic Certificates, Mark sheets, caste certificate, special category certificate and other documents as intimated in the admission letter for verification along with a set of self-attested photocopy of the same and OSSC copy of the application form duly signed by the applicant. **(Details is enclosed in Annexure-B).**

7) Admission Letter:

- a) The Commission shall upload the admission letter in its Website “www.osscc.gov.in” for the convenience of the candidates. Applicants should click on the button ‘candidates’ login’ and then provide ‘user Id’ and ‘Password’ upon which the status of the application will be displayed on the screen. The eligible applicant may click on “Download Admission Letter” to download the Admission Letter and take print out.
- b) Admission of a candidate for the written examination & other tests shall be provisional and shall be on the basis of the information furnished by her / him in the online application form.
- c) The admitted candidates will have to produce the print out of the admission letter at the venue allotted for appearing in the examination / test.



- d) The admission letter contains date, time and venue of the examination, and bears the photo and signature of the candidate and facsimile signature of the Secretary of Commission.

8) Select list:

The Merit list shall be prepared basing on the sum total of marks secured by candidates in Paper-I and Paper-II (out of 200 marks) of the Main Written Examination and found suitable in Certificate Verification. The Select list shall be prepared category wise from the said Merit list equal to number of vacancies advertised and will be forwarded to Govt. for approval. On such approval of Govt. the Commission will publish the result.

9) Action against candidates found guilty of misconduct / malpractice:

(a) If a candidate is found to indulge at any stage in any of the malpractices / misconduct listed below, before during or after conduct of examination, his/her candidature for this examination will be cancelled and they will be debarred from the examinations of the Commission for a specified period or permanently.

- Taking away any Examination related material such as OMR sheets, Rough Sheets, Answer Sheet etc. from the examination hall or passing it on to unauthorized persons during the conduct of examination.
- Leaving the Examination Venue uninformed during the Examination
- Misbehaving, intimidating or threatening in any manner the examination functionaries' i.e. Supervisor, Invigilator, Security Guard or Commission's representatives etc.
- Obstruct the conduct of examination/ instigate other candidates not to take the examination.
- Making statements which are incorrect or false, suppressing material information, submitting fabricated documents, etc.
- Obtaining support/ influence for his candidature by any irregular or improper means.
- Possession of Mobile Phone in either 'switched on' or 'switched off' mode.
- Appearing in the same examination more than once in contravention of the rules.
- A candidate who is working on examination related matters in the same examination.
- Damaging examination related infrastructure/ equipment.
- Appearing in the Exam with forged Admit Card, identity proof, etc.
- Possession of fire arms/ weapons during the examination.



- Assault, use of force, causing bodily harm in any manner Threatening/ intimidating to the examination functionaries' i.e. Supervisor, Invigilator, Security Guard or Commission's representatives etc.
 - Using unfair means in the examination hall like copying from unauthorized sources such as written material on any paper or body parts, etc.
 - Possession of Bluetooth Devices, spy cameras, and any other electronic gadgets in the examination hall.
 - Impersonate/Procuring impersonation by any person.
 - Taking snapshots, making videos of question papers or examination material, labs, etc.
 - Sharing examination terminal through remote desktop software's/ Apps/ LAN/ VAN, etc. or attempting the same.
 - Attempt to hack or manipulate examination servers, data and examination systems at any point before, during or after the examination.
- (b) The Commission may also report the matter to Police/ Investigating Agencies, as deemed fit and the Commission may also take appropriate action to get the matter examined by the authorities/ forensic experts concerned.

10) Commission's Decision Final: The decision of the Commission in all matters relating to eligibility, acceptance or rejection of the applications, penalty for false information, mode of selection, conduct of examination(s), allotment of examination centers and preparation of merit list & post allocation, debarment for indulging in malpractices will be final and binding on the candidates and no enquiry/ correspondence will be entertained in this regard.

11) Important Instruction/Information to the Candidates: -

- (a) Marks scored by candidates in Computer based Main Written Examination, if such examination is conducted in more than one Sitting/Batch, will be normalised by using the formula published by the Commission vide Notice No.2444/OSSC, dt.02.09.2021 and such normalized scores will be used to determine cut-off/ last selection marks.
- (b) There shall be no provision for re-evaluation/ re-checking of scores in the Examination. No correspondence in this regard shall be entertained.
- (c) Sharing of marks with candidate: Marks obtained by an applicant in Main Examination are proposed to be shared with him/her in his/her individual log-in ID after final merit list is published.

- (d) This is a State Cadre post. The candidate, on selection, may be asked to serve anywhere in Odisha.
- (e) If a candidate scoring more than cut-off last selection marks at any Tier/stage of the examination is not qualified for the subsequent stage/ final selection due to any reason, he must represent to the Commission within one month of the declaration of the result.
- (f) Applicants who are Odisha Government servant should obtain a “**No Objection Certificate**” from their controlling authority and upload the same with the Online Application. At the certificate verification stage they must produce the original “No Objection certificate”. Those who were not Odisha Government Servants at time of application but became Government Servants subsequently during recruitment process, must submit No Objection Certificate at stage of certificate verification. Those who are unable to produce No Objection Certificate at or before Certificate Verification, will not be included in the Select List. Similarly if any candidate hides his Govt. servant status and if found to be an Odisha Govt. servant, on the day of Certificate Verification or before, will not be included in the Select List.

By order of the Commission


Secretary

Annexure-A

Important Instructions to Candidates about filling up Online Application:

- Before applying, candidates must go through the instructions given in the notice of examination very carefully.
- Candidates in their own interest should submit online applications much before the closing date and not to wait till the last date to avoid the possibility of disconnection/ inability or failure to login to the OSSC website on account of heavy load on the website during the closing days or for any other reason.
- The Commission is not like to undertake detailed scrutiny of applications for the eligibility and other aspects at the time of written examination and, therefore, candidature will be accepted only provisionally. Candidates must go through the requirements of educational qualification, age, physical and medical standards etc. and satisfy themselves that they are eligible for the post(s). Copies of supporting documents will be sought at the time of Certificate Verification. When scrutiny is undertaken, if any claim made in the application is not found substantiated, the candidature will be cancelled and the Commission's decision shall be final.
- Candidates seeking reservation benefits available for SC/ ST/ SEBC/ PwD must ensure that they are entitled to such reservation/age relaxation as per eligibility prescribed in the Notice. They should also be in possession of the certificates in the prescribed format in support of their claim.
- Candidates with only **benchmark physical disability** mentioned in Clause-2 of Advertisement will be considered as Persons with Disabilities (PwD) and entitled to age-relaxation/ reservation for Persons with Disabilities.
- When application is successfully submitted, it will be accepted 'Provisionally'. Candidates should take printout of the online Application Form for their own records.
- Only one online application is allowed to be submitted by a candidate for any recruitment Examination, Therefore, the candidates must exercise due diligence at the time of filling their online Application Forms. In case, more than one application of a candidate with different registration numbers is detected, all the applications will be rejected by the Commission and his candidature for the examination will be cancelled. If a candidate submits multiple applications and appears in the examination (at any stage) more than once, his candidature will be cancelled and he may be debarred from the examinations of all Commission.
- Before submission of the online application, candidates must check that they have filled correct details in each field of the form. After submission of the corrected/ final online application, no change/ correction/ modification will be allowed under any circumstances. Requests received in this regard in any form like Post, Fax, Email, by hand, etc. shall not be entertained by the Commission and will be summarily rejected.
- The candidates must write their name, Date of Birth, father's name and mother's name as given in the Matriculation Certificates otherwise their candidature may be cancelled at the time of Document Verification or as and when it comes into the notice of the commission.

- Applications with blurred/ illegible Photograph/ Signature will be rejected.
- Candidates must fill their correct and active e-mail addresses and mobile number in the online application as correspondence may be made by the Commission through e-mail/ SMS.
- Candidates must carry two passport size recent colour photographs and one original valid Photo ID Proof such as Aadhaar Card/ printout of E-Aadhaar/ Driving License/ Voter Card/ PAN Card/ Identity Card issued by University/ College/ Government/ Employer ID Card/ ESM Discharge Book issued by Ministry of Defence , or any photo bearing ID card issued by Central/ State Government to the Examination Venue, failing which they will not be allowed to appear for the same. If Photo Identity Card does not have the Date of Birth printed in it, then the candidate must carry an additional original certificate in proof of his/her Date of Birth. In case of mismatch in the date of birth mentioned in the Admission Certificate and Photo ID/ Certificate brought in support of date of birth, the candidate will not be allowed to appear in the examination.
- In case of fake/ fabricated application/ registration by misusing any dignitaries name/ photo, such candidate/ cyber cafe will be held responsible for the same and liable for suitable legal action under cyber/ IT act.

How to Apply:

- The applicants should go through this detail advertisement before filling up the online application form.
- The candidate may apply for the post as per her/his eligibility as per terms of the advertisement.
- All eligible candidates have to register themselves by clicking on “APPLY ONLINE” button on the home page of the Commission’s website www.osscc.gov.in.
- Those candidates who are applying for the first time have to register for the post by clicking on “NEW USER” button shown on the screen. On submitting the registration form a User Id and Password will be generated.
- On clicking “New user” or “Registered User”, instruction for filling up the Online Registration/ Re-registration and Application Forms shall appear on the computer screen. These instructions should be read carefully before proceeding with filling up the Application Form.
- Step by step procedure for registration/re-registration can be viewed by clicking on “Instruction to fill up Online Application Form”.

Pre-requisites for filling up online Application Form:

- Applicants should possess and maintain an e-Mail Id and Mobile Number for accessing the OSSC web portal and to make Online Registration/Re-Registration and Application Form. Candidates should keep that e-mail Id and Mobile Number (used by them during registration) active so as to receive all important communication from the Commission till publication of the final result of this recruitment exam.
- Recent Passport size Colour Photograph of the Applicant, scanned in “jpg/jpeg” format with file size range of 20 kb to 100kb may be kept handy for uploading during Registration.

- Full Specimen Signature & Left /Right Thumb Impression of the Applicant, scanned in “jpg/jpeg” format between ranges of 20 kb to 50kb shall be kept handy for uploading during Registration.
- Scanned document must be in “Pdf” format between ranges of 100kb to 500 kb.
- Applicant may keep their required Certificates, Mark sheets, Aadhar Number& other documents ready while filling up the details of the educational qualification & other fields of Online Application Form.
- SC/ST/SEBC category candidates need to submit detail information of the valid online Caste Certificate issued by competent Authority in the online application form. If the valid online Caste Certificate issued by the competent Authority is not in possession of the applicants at the time of submission of the online application form, she/he must give a self-declaration in the format appended in the online application form.
- Candidate claiming age relaxation under “Ex-Serviceman” category need to upload any one of the Ex-Servicemen Documents i.e. Discharge Certificate/ Identity card/ PPO (wherein the date of entry, date of discharge and period of service rendered in Defence Forces have been reflected). Ex-Servicemen who going to retire within six months from the closing date of online application may apply for the post by obtaining “No Objection Certificate” from the appropriate authority mentioning therein the date of appointment, date of retirement and years of service rendered in Defence Forces. However, such candidates have to submit the discharge certificate on the date of certificate verification for considering their claims under Ex-Serviceman category. The scanned document must be in “Pdf” format between ranges of 100kb to 500 kb.
- Candidates claiming reservation/ age relaxation under “PwD (Persons with Disabilities)” category need to upload a valid online PwD certificate issued by Unique Disability Identification (UDID). The scanned document must be in “Pdf” format between ranges of 100kb to 500 kb.
- In-service contractual employees of Government Offices claiming age relaxation (maximum age limit 45 years as on 01.01.2022) as per Govt. in G.A. Department Notification No.GAD-SC-Rules-0061-2013-1147/Gen dtd.17.01.2014 for the Group-B Post/Notification No.GADSC-Rules-0009-2013/32010/Gen dtd.18.11.2013 for Group-‘C’ & ‘D’ posts and who have completed minimum one year of continuous service prior to commencement of Odisha Group-B/Group-C & D posts Contractual Appointment Rules, 2013 must possess the required certificate issued by the concerned employer in the Performa prescribed by the Commission vide Advisory Notice No.3568/OSSC dated 01.11.2019 available in the website of the Commission www.osscc.gov.in. They have to fill the information like Name of the Employer, Scheme of appointment, date of appointment, whether covered under Category-I/Category-II (as per clause-4 of Odisha Group-B/Group-C & D of Contractual Appointment Rules-2013), FD Approval/Concurrence Number in the online application form. The candidate has to produce the certificate issued by the employer in the prescribed format, as prescribed in the above Advisory Notice along with original documents during Certificate Verification for consideration and examination of her/his claim under Contractual in-service benefits.
- The candidate should ensure that the scanned Photograph and full Signature, Left/Right Hand Thumb Impression and other relevant documents are clearly identifiable/ visible. Otherwise

the registration and application shall be liable for rejection. No correspondence on this account shall be entertained.

- Candidates must submit correct data /information in the Online Application Form. If at any stage of recruitment or thereafter, it is found that any information furnished by the candidate in her/his online application is false/incorrect or the candidate has suppressed any relevant information or the candidate otherwise does not satisfy the eligibility criteria prescribed for the post, her/his candidature for the post will be cancelled forthwith.

Annexure-B

Document to be submitted at time of Certificate Verification:

- a. Downloaded copy of Admission letter for Certificate Verification.
- b. Downloaded copy of Bio-Data-cum-Attestation form duly filled in & signed by the candidate.
- c. Copy of the Online Application form legibly signed in each page by the candidate at appropriate place.
- d. HSC certificate & mark sheet or equivalent certificate in support of Date of Birth, issued by the concerned Board/Council.
- e. Diploma in Mining Engineering pass Certificate & marksheet.
- f. Caste certificate issued by the competent authority for the purpose of employment/service. (In case of ST, SC & SEBC Candidates only) SEBC category candidates must submit photocopy of valid SEBC certificate issued by the competent authority which must be within one year prior to the closing date of online application.
- g. Certificate either of passing HSC examination with Odia as a compulsory subject, or in lieu thereof a certificate of passing Odia of M.E. standard issued by competent authority.
- h. Photocopy of permanent disability certificate issued by UDID (by Appropriate Medical Authority) in case of PwD candidates.
- i. Discharge certificate, identity card and document indicating the Date of Enrolment, Date of Discharge & period of service rendered in Defence Forces in case of Ex-Servicemen candidates.
- j. The In-Service Contractual employees claiming age relaxation must submit a copy of his/her Appointment Order along-with a certificate from the employer indicating therein the Date of Appointment, Period of Service completed, Post held, Nature of post, Scheme under which appointed and No Objection to appear the examination.
- k. NOC in case of candidates working in Government Service.

Annexure-C

Detail Syllabus of Main Written Examination of Junior Mining officer PAPER-I

a. Surface mining Technology

1. Choice of Opencast Mining
2. Benching
3. Slope Stability
4. Explosive and blasting accessories
5. Drilling
6. Blasting practices in Mines
7. Controlled blasting Techniques as per statutory provision
8. Magazines

b. Underground Coal Mining

1. Introduction to underground coal Mining
2. Bord and Pillar method
3. Long wall method
4. Thick seam Mining
5. Horizon mining
6. Hydraulic and Pneumatic Stowing
7. Support and roof control in Mines
8. Subsidence due to Mining
9. Shaft Sinking

c. Mine Ventilation

1. Course contents.
2. Air crossing and distribution
3. Mechanical Ventilation
4. Booster fan and its Effects
5. Auxiliary Ventilation
6. Ventilation Survey
7. Leakage of air in Mines .

d. Mine hazard and safety

1. Mine gases & gas testing
2. Emission of firedamp in U/g working.
3. Define fires & spontaneous heating
4. Mine explosion
5. Mine Inundation
6. Mine lighting & illumination
7. Noise and vibration .
8. Mine Rescue and Recovery

e. Mine Machinery

1. Wire Ropes
2. Rope haulage
3. Headgear

4. Cage and shaft fittings
 5. Winding drum
 6. Friction Winding
 7. Skip Winding
 8. Pit top & Pit bottom circuit layout
- f. **Underground Metal Mining**
1. Access to ore body
 2. Development in underground Metal mine.
 3. Give a Comparative study between coal and metal Mining
 4. Stopping Methods.
 5. Stone Drifting
 6. Rock Burst
 7. Face mechanization.
- g. **Mineral Dressing**
1. Introduction
 2. Unit Operations
 3. Grinding
 4. Explain the procedure for size analysis & use of standard screen as also screening techniques employed.
 5. Industrial Screening
 6. Gravity Concentration
 7. Heavy Media separation
 8. Floatation
 9. Magnetic & Electrostatic Separators
- h. **Material handling and Logistics**
1. Introduction to surface & underground haulage System.
 2. Conveyors
 3. Locomotive haulage
 4. Aerial ropeways
 5. Hydraulic transportation of solids.
 6. Man riding haulage
 7. Spiral Chutes
 8. Flow of Materials in bins, bunkers.

PAPER-II

- a. **Mine Survey - 1**
1. Chain Survey
 2. Compass Survey
 3. Plane Table Survey
 4. Computation of areas
 5. Levelling
 6. Calculation of Ore Reserves
 7. Theodolite
- b. **Mine Legislation & General Safety**
1. Mines Act 1952 Discuss various Provisions of Mines Act 1952.

2. Mines Rules 1955 Discuss various provisions of Mines Rule 1955.
 3. Coal Mine Regulation 2017 Discuss various provisions of C.M.R.2017 .
 4. Mines Rescue Rules 1985 Discuss various provisions of Mines Rescue Rules 1985.
 5. Indian Explosive Rules 2008 Discuss various provision of Indian Explosive Rules 2008.
 6. Central Electricity Authority 2010 Discuss various provisions of Central Electricity Authority 2010.
- c. **Mine Survey - II**
1. Tacheometry
 2. Triangulation and Trilateration.
 3. Correlation of Surface and underground survey.
 4. Setting out Curves.
 5. Stop Surveying
 6. G.P.S & Total Station .
- d. **Mine Legislation & General Safety - II**
1. Metalliferous mines Regulations 1961
 2. Mines V.T Rules 1966
 3. Mines Creche Rules 1966
 4. Maternity benefit Act.
 5. Mines Accident & Safety
 6. Forest Conservation Act (FCA) 1980.
 7. Environmental Protection Act 1986.
 8. MMDR Act MCR Rules
 9. Classified Circulars (DGMS)
- e. **Advanced Mines Survey**
1. Spherical Trigonometry .
 2. Field Astronomy.
 3. Element of Photogrammetry.
 4. Global Positioning System.
 5. Total Station .
- f. **Environmental Studies**
1. The Multi-disciplinary nature of environmental studies.
 2. Natural Resources.
 3. Systems
 4. Biodiversity and it's Conversation
 5. Environmental Pollution .
 6. Social Issues and the Environment.
 7. Human Population and the Environment.
