



Mineral Exploration & Consultancy Ltd.

ONLINE RECRUITMENT EXAMINATION FOR THE POST OF TECHNICIAN (LABORATORY) INFORMATION HANDOUT

This handout contains details pertaining to various aspects of the online exam you are going to undertake and important instructions about related matters. You are advised to study the handout carefully as it will help you in preparing for the examination.

The on-line examination will comprise the following objective type multiple choice tests as stated below:

Sr. No.	Name of the Test	No. of Questions	Max. Marks	Version	Duration
1	General Aptitude Test	50	50	Only English	60 Minutes
2	Technical Knowledge Test	50	50		60 Minutes
	Total	100	100		120 Minutes

The time for the exam is 120 minutes; however you may have to be at the venue for approximately 180 minutes including the time required for logging in, collection of the Call Letters, going through the instructions etc. All tests will be provided in English. You can attempt any question within the allotted time to that part. All the questions will have multiple choices. Out of the five answers to a question, only one will be the correct answer. **You have to select the most appropriate answer and 'mouse click' that alternative which you feel is appropriate/ correct. The alternative/option that you have clicked on, will be treated as your answer to that question. There will be no penalty.**

The Scores of Online Examination will be obtained by adopting the following procedure:

- Number of questions answered correctly by a candidate in each objective test is considered for arriving at the Corrected Score after applying penalty for wrong answers.
- The Corrected Scores so obtained by a candidate are made equivalent to take care of the minor difference in difficulty level, if any, in each of the objective tests held in different sessions to arrive at the Equated Scores*
*Scores obtained by candidates on any test are equated to the base form by considering the distribution of scores of all the forms.
- Testwise scores and scores on total is reported with decimal points upto two digits.

Note: Cutoffs may be applied in two stages:

- On scores in individual objective tests
- On Total Score of objective tests

Please note that the types of questions in this handout are only illustrative and not exhaustive. In the actual examination you will find questions of a higher difficulty level on some or all of these types and also questions on the types not mentioned here.

Some sample questions are given below.

GENERAL APTITUDE TEST

- Q.1.** OSCAR awards are given for best performance in which of the following field ?
(1) Films (2) Literature (3) Sports (4) Science (5) Social Service

- Q.2.** R. K. Laxman is famous for _____
 (1) Painting (2) Cartoons (3) Screenplay Writing
 (4) Film Direction (5) Other than those given as options
- Q.3.** If the letters in the word TOPS can be rearranged to form a meaningful word beginning with O, the last letter of that word is your answer. If more than one such word can be formed, M is the answer and if no such word can be formed, X is the answer.
 (1) T (2) P (3) M (4) S (5) X
- Q.4.** In a row of girls, if Seeta who is 10th from the left and Lina who is 9th from the right interchange their seats, Seeta becomes 15th from the left. How many girls are there in the row ?
 (1) 16 (2) 18 (3) 19 (4) 22 (5) Other than those given as options
- Q.5-7.** In the following passage there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.
- The true (5) of rights is duty. If we all fulfill our duties, rights will not be (6) to seek. If leaving duties unperformed we run after rights, they will (7) us like an elusive person.
- Q.5.** (1) end (2) source (3) joy (4) purpose (5) power
Q.6. (1) far (2) close (3) easy (4) against (5) common
Q.7. (1) hold (2) grab (3) fight (4) escape (5) chase

Directions : In each of the following questions one number is missing. The place where the number is missing is shown by a question mark (?). You have to find out which one of the answers shown against 1, 2, 3 and 4 can replace the question mark. If none of these four can replace the question mark, you will indicate (5) i.e. 'Other than those given as options' as your answer.

- Q.8.** $\frac{24}{65} \times \frac{13}{56} \times \frac{5}{7} = ?$
 (1) $\frac{3}{49}$ (2) $\frac{15}{245}$ (3) $\frac{3}{77}$ (4) $\frac{15}{56}$ (5) Other than those given as options
- Q.9.** Sohanlal purchased 120 reams of paper at Rs.100 per ream. The expenditure on transport was Rs.480. He had to pay an octroi duty of 50 paise per ream and the coolie charges were Rs.60. What should be the selling price of each ream if he wants a profit of 20% ?
 (1) Rs.126 (2) Rs.115.50 (3) Rs.105 (4) Rs. 120 (5) Other than those given as options

TECHNICAL KNOWLEDGE TEST

Questions in this test will be relevant to the area of specialization based on the following syllabus. The syllabus for all subjects is indicative and not exhaustive.

I. General Chemistry:

1. Atomic Structure
2. Atomic models
3. Electron configuration
4. Chemical Bonding
5. Types of chemical bonds
6. Bonding theories (VSEPR, hybridization)
7. Acids and Bases
8. pH scale
9. Chemical Equilibrium
10. Oxidation-reduction concepts

II. Analytical Chemistry

1. Qualitative Analysis- Identification of ions and compounds
2. Quantitative Analysis- Gravimetric and volumetric analysis, Standard solutions and titrations
3. Titration Methods- Acid-base, redox, and complexometric titrations
4. Sample Preparation Techniques- Extraction, filtration, and dilution methods

III. Laboratory Techniques and Safety

1. Laboratory Equipment- Common laboratory instruments (balances, pipettes, spectrophotometers)
2. Laboratory Safety - Hazard identification and mitigation, Personal Protective Equipment (PPE)
3. Chemical Handling- Safe handling of chemicals, Chemical storage and disposal

IV. Inorganic Chemistry

1. Periodic Table and Periodicity- Periodic trends (atomic radius, electronegativity)
2. Coordination Chemistry- Coordination compounds and ligands, Isomerism in coordination complexes

V. Organic Chemistry

1. Hydrocarbons- Alkanes, alkenes, alkynes, Aromatic compounds

VI. Biochemistry






1. Biomolecules- Carbohydrates, lipids, proteins, nucleic acids, Structure and functions

VII. Computer Skills

1. Basic Computer Applications – Microsoft Office (Word, Excel, Powerpoint), Data analysis software (e.g. Excel for data analysis)

(A) Details of the On-line Examination Pattern:

- (1) The examination would be conducted on-line i.e. on a computer.
- (2) All tests will be provided in English.
- (3) All the questions will have multiple choices. Out of the five answers to a question only one will be the correct answer. **The candidate has to select the most appropriate answer and 'mouse click' that alternative which he/ she feels is appropriate/ correct. The alternative/ option that is clicked on will be treated as the answer to that question. Answer to any question will be considered for final evaluation, only when candidates have submitted the answers by clicking on "Save & Next" or "Mark for Review & Next".**
- (4) The clock has been set at the server and the countdown timer at the top right corner of your screen will display the time remaining for you to complete the test. When the clock runs out the exam ends by default - you are not required to end or submit your exam.
- (5) The question palette at the right of screen shows one of the following statuses of each of the questions numbered:

-  You have not visited the question yet.
-  You have not answered the question.
-  You have answered the question.
-  You have NOT answered the question, but have marked the question for review.
-  The question(s) "Answered and Marked for Review" will be considered for evaluation.

The Marked for Review status simply acts as a reminder that you have set to look at the question again. *If an answer is selected for a question that is Marked for Review, the answer will be considered in the final evaluation.*

- (6) To select a question to answer, you can do one of the following :
 - (a) Click on the question number on the question palette at the right of your screen to go to that numbered question directly. Note that using this option **does NOT save your answer** to the current question.
 - (b) Click on **'Save & Next'** to save answer to current question and to go to the next question in sequence.
 - (c) Click on **'Mark for Review and Next'** to save answer to current question, mark it for review, and to go to the next question in sequence.
- (7) To select your answer, click on one of the option buttons.
- (8) To change your answer, click another desired option button.
- (9) To save your answer, you **MUST** click on **Save & Next**.
- (10) To deselect a chosen answer, click on the chosen option again or click on the **Clear Response** button.

- (11) To mark a question for review click on **Mark for Review & Next**. *If an answer is selected for a question that is Marked for Review, the answer will be considered in the final evaluation.*
- (12) To change an answer to a question, first select the question and then click on the new answer option followed by a click on the **Save & Next** button.
- (13) Questions that are saved or marked for review after answering will ONLY be considered for evaluation.**
- (14) Test name(s) will be displayed on the top bar of the screen. The test you will view will be highlighted.
- (15) The candidates are requested to follow the instructions of the "Test Administrator" carefully. If any candidate does not follow the instructions / rules, it would be treated as a case of misconduct/ adoption of unfair means and such a candidate would be immediately debarred to continue in the examination.
- (16) The candidates may ask the Test Administrator about their doubts or questions only before the commencement of the test. No query shall be entertained after the commencement of the examination.
- (17) You can attempt any question within the allotted time to that part.
- (18) After the expiry of time allotted to a particular test/group of tests the candidates will not be able to attempt any question or check their answers. The answers of the candidate would be saved automatically by the computer system even if he/ she has not clicked the "Submit" button.
- (19) Please note :**
 - (a) Candidates will not be allowed to "finally submit" unless they have exhausted the actual test time.**
 - (b) Under no circumstances should a candidate click on any of the 'keyboard keys' once the exam starts as this will lock the exam.**

[B] General Instructions:

- (1) Please note date, reporting time and venue address of the examination given in the Call Letter.
- (2) You may visit the venue one day before the Online Examination to confirm the location so that you are able to report **on time** on the day of the examination. Late comers will not be allowed.
- (3) The Call Letter should be brought with you to the examination venue along with your recent passport size photograph duly pasted on it.
- (4) You must scrupulously follow the instructions of the Test Administrator and the MECL Representative at the examination venue. If you violate the instructions you will be disqualified and will be asked to leave the examination venue.
- (5) No use of calculators (separate or with watch), books, note books or written notes, cell phones (with or without camera facility) or any other electronic device will be allowed during the examination.
- (7) Please bring the call letter with your photograph affixed thereon, currently valid Photo identity proof in original and a photocopy of the same ID proof which you bring in original - **THIS IS ESSENTIAL. Please hand over the call-letter alongwith photocopy of photo identity proof duly stapled together to the invigilator.** Currently valid photo identity proof may be PAN Card/Passport/Driving License/Voter's Card with photograph/ Bank Passbook with photograph/Photo Identity proof issued by a Gazetted Officer on official letterhead /Photo Identity proof issued by a People's Representative on official letterhead/Valid recent Identity Card issued by a recognised College/ University/Aadhaar/E-Aadhaar Card with a photograph/Employee ID/Bar Council Identity card with photograph. **Please Note - Ration Card and Learner's Driving License will NOT be accepted as valid ID proof for this exam.** Please note that your name as appearing on the call letter (provided by you during the process of registration) should exactly match the name as appearing on the photo identity proof. Female candidates who have changed first/last/middle name post marriage must take special note of this. If there is any mismatch between the name indicated in the Call Letter and Photo Identity Proof you will not be allowed to appear for the exam. In case of candidates who have changed their name will be allowed only if they produce Gazette notification/their marriage certificate/affidavit in original and a copy.
- (8) Your responses (answers) will be analysed with other candidates to detect patterns of similarity of right and wrong answers. If in the analytical procedure adopted in this regard, it is inferred/concluded that the responses have been shared and scores obtained are not genuine/valid, your candidature may be cancelled. Any candidate who is found copying or receiving or giving assistance or engaging in any behaviour unbecoming of a candidate will not be considered for assessment. MECL may take further action against such candidates as deemed fit by it.
- (9) You must bring a ball-point pen with you. You are allowed to bring your own ink stamp pad (blue/black) with you. A sheet of paper will be provided which can be used for rough work or taking down the question number you

would like to review at the end of the test before submitting your answers. After the test is over you MUST hand over this sheet of paper to the Test Administrator before leaving the venue.

- (10) The possibility of occurrence of some problem in the administration of the examination cannot be ruled out completely which may impact test delivery and/or result from being generated. In that event, every effort will be made to rectify such problems, which may include movement of candidates, delay in test. The conduct of a re-exam is at the absolute discretion of the test conducting body. Candidates will not have any claim for a re-test. Candidates not willing to move or not willing to participate in the delayed process of test delivery shall be summarily rejected from the process. MECL reserves the right to postpone/cancel the Online Test or alter the date/time/venue of the Online Test at its discretion.
- (11) If the examination is held in more than one session, the scores across various sessions will be equated to adjust for slight differences in difficulty level of different test batteries used across sessions. More than one session is required if the nodes capacity is less or some technical disruption takes place at any centre or for any candidate.
- (12) Anyone found to be disclosing, publishing, reproducing, transmitting, storing or facilitating transmission and storage of test contents in any form or any information therein in whole or part thereof or by any means verbal or written, electronic or mechanical or taking away the papers supplied in the examination hall or found to be in unauthorised possession of test content is likely to be prosecuted.
- (13) Instances for providing incorrect information and/or process violation by a candidate detected at any stage of the selection, process will lead to disqualification of the candidate from the selection process and he/she will not be allowed to appear in any MECL recruitment process in the future. If such instances go undetected during the current selection process but are detected subsequently, such disqualification will take place with retrospective effect.
- (14) Candidates are advised to take note of "The Public Examinations (Prevention of Unfair Means) Act, 2024".

WISH YOU GOOD LUCK!