राष्ट्रीय प्रौद्योगिकी संस्थान रायपुर

National Institute of Technology Raipur

(An Institute of National Importance)G E Road, Raipur. 492010, CG India Phone: 0771-2252700, Fax: 0771-2253104
Website: www.nitrr.ac.in

Information Brochure for Admission to First Semester M. Tech. Applied Geology for Academic Year 2025-26.

Last date of submitting the application by e-mail to mtechag@nitrr.ac.in is ~~11.07.2025~~ 18.07.2025
and tentative date of examination and interview is ~~21.07.2025~~ 28.07.2025

Required academic eligibility criterion: -
Passed Bachelor's degree in Science or Engineering/Technology from a recognized University/Institute with Geology as one subject.

Seat Matrix (Vacancy) for academic session 2025-2026

S. No.	Department	M. Tech. Programme	Seat matrix					Total
			OC	OBC	SC	ST	EWS	
1.	Applied Geology	Applied Geology	07	06	03	01	02	19

Application form is provided as Annexure I (Here). (Kindly note that the form is to be filled digitally by typing in the fields provided in the PDF FORM).
For admission in Applied Geology, candidates MUST produce a physical fitness certificate from any registered medical practitioner at the time of joining.
Reservation as per Central Government rules is applicable.
SC/ST/OBC-NCL/OC- EWS certificate must be submitted in central government formats which are given along-with the application format. Please note that OBC-NCL and OC-EWS certificates must be issued on or after 01/04/2025 by the competent authority (Tehsildar and above). The formats are attached herewith as Annexure-II and are provided here (Annexure II).
Transfer and Character certificate from the Head of Institution studied last must be produced at the time of admission.

Instructions of filling the application form:

Kindly note that the form is to be filled digitally by typing in the fields provided in the PDF FORM. An application fee (non-refundable) of INR 1000/- for OC/OBC/EWS candidates and INR 500/- for SC/ST candidates is applicable. Incomplete applications and/or applications without successful fee payment will be considered invalid and shall be treated as cancelled.

Fee payment link[URL] :

https://www.onlinesbi.sbi/sbicollect/icollecthome.htm?corpID=273791
(titled 'M. Tech. App. Geology Application fee).

A. The form is a digitally fill-able PDF form and information has to be typed directly by opening the form in any pdf reader. Please type-in the information carefully in the form and save the form with your name and mobile number as "name_mobile number.pdf".
B. Prepare a single (merged) pdf file of documents as mentioned in the form of the following

documents:

1. Copy of Xth class/High school marksheet/certificate bearing DoB of the applicant.
2. Copy of marksheet of all semesters/years of the qualifying degree.
3. Category (As per format available in annexure 1-4), if applicable,
4. Proof of payment

C. Applicants are required to attach one passport-sized color photograph (image file)

Please attach the duly filled application form (1st attachment), one passport size photo (2nd attachment) and single PDF file of all documents, as mentioned under point B above (as 3rd attachment) in e-mail and send to mtechag@nitrr.ac.in on or before ~~11.07.2025~~ 18.07.2025. The mail must carry the following as Title under subject "**Application for M. Tech. Applied Geology 2025**".

Kindly note that:

1. Incomplete applications will be rejected.
2. Applications without the payment of requisite fee shall be rejected.
3. Applications received in e-mail after ~~11.07.2025~~ 18.07.2025 (even if the payment is made) shall also be rejected. Hence it is advised to make payment beforehand so that the e-mail submission could be made by the stipulated timementioned above.

Note:

1. The entrance examination/ interview at NIT Raipur is tentatively scheduled to be conducted on or after ~~21.07.2025~~ 28.07.2025 and the applicants may make necessary prior arrangements for travel and stay of (at-least two days).
2. The list of candidates called for examination shall be uploaded in Institute website on ~~14.07.2025.~~ 21.07.2025 Individual intimation shall not be sent to any applicant. Candidates are, therefore, advised to regularly check the Institute website for updates.
3. Any change in dates of examination, admission schedules, and other related notices will be published on the Institute website (www.nitrr.ac.in). No separate communication will be sent to the candidates via post or email.

MTech (Applied Geology) Admission Process

The following terms and conditions shall be applicable:

1. Application Process:

- Initial scrutiny of the received online applications.
- Incomplete applications will lead to disqualification of the candidature.

2. Scrutiny and Eligibility:

- A list of eligible candidates who are to appear for the Written Entrance Examination will be compiled and uploaded on the Institute's official website.
- The Institute reserves the right to shortlist the applicants on the basis of Percentage/ CPI in the qualifying degree.

3. Written Entrance Examination:

- The Written Entrance Examination (of 100 marks) will be held at NIT Raipur as per the prescribed schedule.
- Duration of the examination: ONE HOUR
- Format of examination: Multiple Choice Questions (MCQ) in English
- Number of Questions: 50, each correct answer will fetch 02 marks.
- An Answer Key will be uploaded on the Institute's website immediately after the examination concludes.

4. Grievance Redressal:

- Candidates who identify any discrepancies in the question paper can register their grievance on the day of the examination.
- To file a grievance, candidates must submit a fee of Rs. 1000/- to the HOD Applied Geology.
- If any question or answer is found to be incorrect after the examination, that particular question will be removed from evaluation for all candidates.

5. Evaluation and Merit List:

- The Merit List of candidates will be prepared based on:
    - 70% weightage to marks percentage obtained in the Written Entrance Examination
    - 30% weightage to marks percentage obtained in the qualifying Bachelor's degree examination.

6. Announcement and Admission:

- The Final Merit List and Waiting List (category-wise) will be uploaded on the Institute's website and department notice board on the same day as the written examination.
- Government of India reservation rules will be strictly followed during the admission process.
- Admission to the program will be offered according to the prescribed seat matrix and the position of the candidates in the merit list.

7. Tie-Breaking Criteria:

- In case of a tie in the Merit List, the following criteria will be applied in the specified order:
    1. Higher marks obtained in the Written Entrance Examination.
    2. Subject combination in the qualifying Bachelor's degree examination in the following sequence:
        - Geology, Maths, Physics;
        - Geology, Maths, Chemistry;
        - Geology, Physics, Chemistry;
        - Geology, Chemistry, Geography;
        - Geology with other subjects
    3. Age of the candidate, with preference given to older candidates.

8. Vacant Seats and Waiting List:

- Any remaining vacant seats after the admission process will be filled from the waiting list, adhering to Government of India reservation norms.

Entrance Examination

Geology Syllabus for Admission in MTech (Applied Geology)

The Planet Earth: Origin of the Solar System and the Earth; Geosphere and the composition of the Earth; Shape and size of the Earth; Earth-Moon system; Dating rocks and age of the Earth; Volcanism and volcanic landforms; Interior of the Earth; Earthquakes; Earth's magnetism and gravity, Isostasy; Basic elements of Plate Tectonics; Orogenic cycles.

Geomorphology: Weathering and erosion; Soil formation; Transportation and deposition by wind, ice, river, sea, and resulting landforms.

Structural Geology: Orientation of planes and lines in space – the concept of dip, strike, rake, and plunge. Contour lines; Interpretation of geological maps and cross-section construction; Classification and origin of folds, faults, joints, unconformities, foliations, and lineations.

Paleontology: Major steps in the evolution of life forms; Fossils, their mode of preservation and utility in age determination and paleoenvironmental interpretations; Morphology, major evolutionary trends and ages of important groups of animals – Brachiopoda, Mollusca, Trilobita, Graptolitoidea, Anthozoa, Echinodermata; Gondwana plant fossils; Elementary idea of vertebrate fossils in India.

Stratigraphy: Principles of stratigraphy; Litho-, Chrono- and biostratigraphic classification; Stratigraphic correlation techniques; Archaean cratons of Peninsular India (Dharwar, Singhbhum and Aravalli); Proterozoic mobile belts; Stratigraphy of Cuddapah and Vindhyan basins; Stratigraphy of Paleozoic – Mesozoic of Spiti and Kashmir, Gondwana Supergroup, Jurassic of Kutch, Cretaceous of Trichinopoly, Deccan Trap, Tertiary and Quaternary sequences of Assam, Bengal and Siwaliks.

Crystallography and Mineralogy: Symmetry and forms in common crystal classes; Physical properties of minerals; Isomorphism, polymorphism, solid solution, and exsolution; Classification of minerals; Structure of silicates; Mineralogy of common rock-forming minerals; Elements of Optical Mineralogy, Optical properties of common rock-forming minerals.

Petrology: Magma and its composition; Forms, Structures, Textures, and Classification of Igneous rocks; Metamorphism – Definition, agents and Types. Structure, Texture, and classification of Metamorphic rocks; Processes of Sedimentation, Textures, Structures and classifications of Sedimentary rocks.

Economic Geology: Ore, Ore Mineral, and Gangue; Elementary idea of Ore Mineral Forming Processes; Metallic Ore Mineral deposits of India - Iron, Manganese, Chromium, Copper, Lead-Zinc and Aluminium; Non-metallic Mineral deposits of India: Mica. Talc, Gypsum, Kyanite, Phosphorite, Graphite, Fluorite, Diamond. Coal, Petroleum and Natural Gas.

Applied Geology: Groundwater and hydrological cycle, Types of aquifers, porosity and permeability; Principles of engineering geology; Geological considerations in the construction of dams and tunnels; Mineral Prospecting and Exploration; Mining – Definition and different methods, Basics of Remote Sensing and GIS; Applications of Remote Sensing and GIS in Geology.

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