

Department of Geology
Faculty of Earth Sciences
Mohanlal Sukhadia University, Udaipur

M. Sc. Tech. (Applied Geology) - Course Structure
Under Choice Based Credit System (CBCS) w. e. f. 2020 – 2021

Core Papers

| Paper Code | Paper Name |
|-------------------|--|
| MT1GEO01-CT01 | STRUCTURAL GEOLOGY AND TECTONICS |
| MT1GEO02-CT02 | MICROPALAEONTOLOGY |
| MT1GEO03-CT03 | MINERAL EXPLORATION AND MINING GEOLOGY |
| MT1GEO04-CT04 | MINERAL TECHNOLOGY AND MINERAL ECONOMICS |
| MT2GEO01-CT05 | ADVANCED REMOTE SENSING IN GEOSCIENCES |
| MT2GEO02-CT06 | ENGINEERING AND GROUND WATER GEOLOGY |
| MT2GEO03-CT07 | PETROLEUM, COAL AND RADIOACTIVE MINERALS |
| MT2GEO04-CT08 | OCEANOGRAPHY AND CLIMATOLOGY |
| MT1GEO05-CP01 | Practical – I : STRUCTURAL GEOLOGY AND TECTONICS & MICROPALAEONTOLOGY |
| MT1GEO06-CP02 | Practical – II : MINERAL EXPLORATION AND MINING GEOLOGY & MINERAL TECHNOLOGY AND MINERAL ECONOMICS |
| MT2GEO05-CP03 | Practical – III : ADVANCED REMOTE SENSING IN GEOSCIENCES & ENGINEERING AND GROUND WATER GEOLOGY |
| MT2GEO06-CP04 | Practical – IV : PETROLEUM, COAL AND RADIOACTIVE MINERALS & OCEANOGRAPHY AND CLIMATOLOGY |

Skill Paper

| Paper Code | Paper Name |
|-------------------|-----------------------------------|
| MT2GEO07-SE01 | Geological and Mining Consultancy |

Checked and Approved
(-sd)

(Dr. Maya Chaudhary)

Checked and Approved
(-sd)

(Dr. Harish Kapasya)

Checked and approved
(-sd)

(Mr. Subhash Chandra Janagal)

M. Sc. Tech. (Semester I) 2020-21
APPLIED GEOLOGY

MT1GEO05-CP01

Core Course PRACTICAL – I

No. of Credits : 4

(STRUCTURAL GEOLOGY AND TECTONICS & MICRO-PALEONTOLOGY)

Structural Geology and Tectonics:

1. Identification of structural elements and their chronology in hand specimen.
2. Solution of structural problems by stereo-graphic projection, single and double rotation problems.
3. Structural analysis with stereonet: s-pole, B-pole diagram, methodology and interpretation of patterns.
4. Drill hole problems.

Micropaleontology

1. Identification and morphological study of following microfossil genera under stereozoom microscope: Ostracodes, Foraminifera, Conodonts and Charophytes.
2. Morphological features of Pollens & spores, Acritarchs, Diatoms and Radiolaria.

Viva Voice

Field Training

Record

Checked and Approved
(-sd)

(Dr. Maya Chaudhary)

Checked and Approved
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(Dr. Harish Kapasya)

Checked and approved
(-sd)

(Mr. Subhash Chandra Janagal)

M. Sc. Tech. (Semester II) 2020-21

APPLIED GEOLOGY

MT2GEO05-CP03

Core Course PRACTICAL – III

No. of Credits : 4

**(ADVANCED REMOTE SENSING IN GEOSCIENCES &
ENGINEERING AND GROUND WATER GEOLOGY)**

Advanced Remote Sensing in Geosciences

Photo based, air-based calculations; Analysis of the drainage system using aerial photographs; Geomorphic mapping on aerial photographs; Geological and structural mapping using aerial photographs.; Lineament analysis on satellite images; Geological and structural studies using imageries.

Engineering and Ground Water Geology

Problems related to aggregate impact values of rock samples, moisture content and dry density in rocks; Exercises based on physico-mechanical properties of rock samples; Preparation of iso-hyetal maps; Groundwater contouring; Rainfall frequency analysis; Calculation of porosity, permeability, yield; Pumping test exercises; Problems related to chemical quality of groundwater.

Viva Voice

Field Training

Record

**Checked and Approved
(-sd)**

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(Dr. Harish Kapasya)

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