HIGHER SECONDARY

# PRACTICAL STUDY MATERIAL

# GEOLOGY

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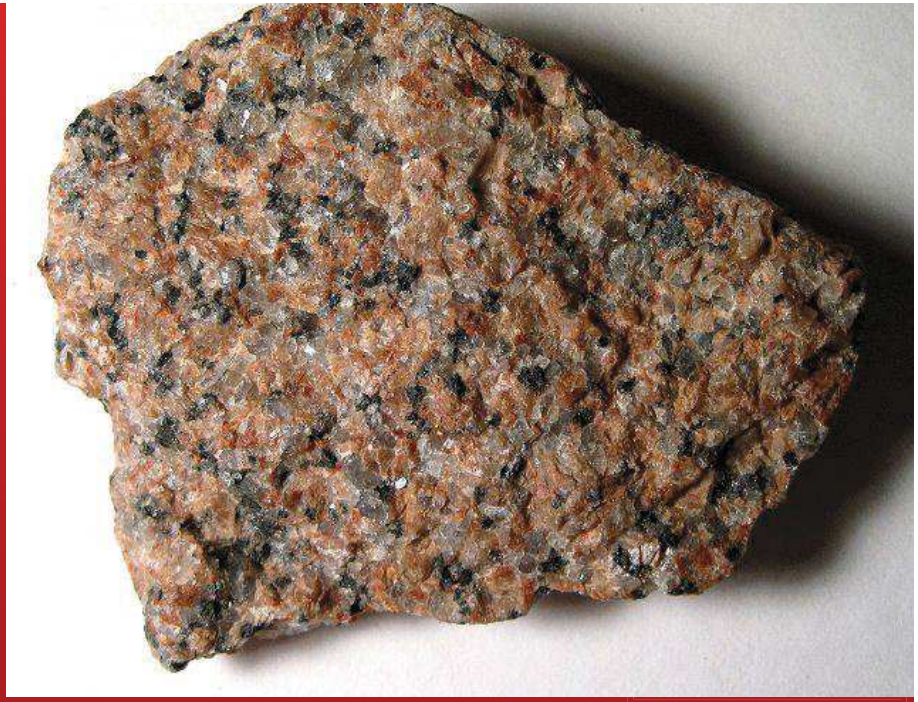
# PETROLOGY

- IGNEOUS ROCKS
- SEDIMENTARY ROCKS
- METAMORPHIC ROCKS

# IGNEOUS ROCKS

SPECIMEN NO:1

# GRANITE



| | |
|---|---|
| **TEXTURE** | **Coarse grained , holocrystaline , phaneritic, equigranular/ porphyritic** |
| **MINERALOGY** | |
| **Major minerals** | **:Quartz, Feldspar** |
| **Minor minerals :** | **:Biotite , Hornblende** |
| **TYPE** | **Felsic plutonic igneous rock** |
| **This rock is identified as GRANITE** | |

SPECIMEN NO:2

# PEGMATITE

| | |
|---|---|
| **TEXTURE** | Holocrystaline phaneritic<br>very coarse grained pegmatitic<br>Equigranular |
| MINERALOGY<br>**Major minerals** | **: Quartz, Feldspar** |
| **Minor minerals** | **: Biotite, Muscovite** |
| TYPE | **Felsic plutonic igneous rock** |
| **This rock is identified as PEGMATITE** | |

SPECIMEN NO:3

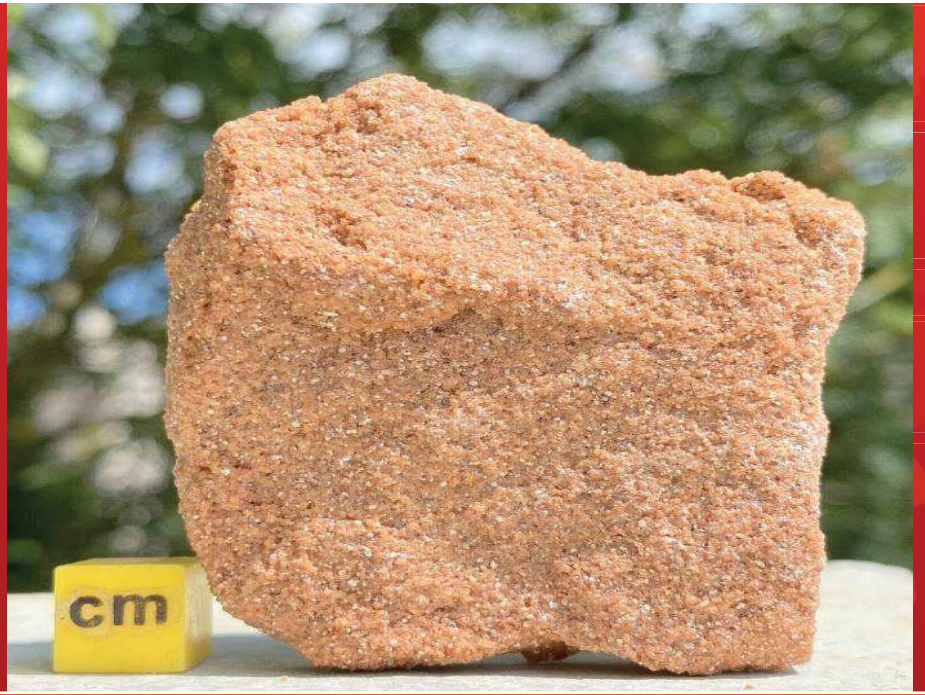
# BASALT

| | |
|---|---|
| **TEXTURE** | Holohyaline Aphanitic, Fine grained, Equigranular |
| **MINERALOGY** **Major minerals** | **: Feldspar, Ca Plagioclase and Pyroxene** |
| **Minor minerals** | **: Olivine** |
| **TYPE** | **Mafic volcanic igneous rock** |
| **This rock is identified as BASALT** | |

- **SEDIMENTARY ROCKS**

SPECIMEN NO:4

# SANDSTONE




| | |
|---|---|
| **TEXTURE /STRUCTURE** | **Clastic, rounded and coarse grained** |
| **MINERALOGY** | |
| **Major minerals** | **: Quartz** |
| **Minor minerals** | **: Feldspar, Garnet** |
| **TYPE** | **Clastic sedimentary rock** |
| **This rock is identified as SANDSTONE** | |

SPECIMEN NO:5

# LATERITE

| TEXTURE /STRUCTURE | Reddish porous Oolitic |
|---|---|
| MINERALOGY<br>Major minerals | : Limonite |
| Minor minerals | :Quartz |
| TYPE | Residual sedimentary rock |
| This rock is identified as LATERITE | |

SPECIMEN NO:6

# SHALE

| | |
|---|---|
| **TEXTURE /STRUCTURE** | **Clastic fine grained, lamination present** |
| **MINERALOGY** | |
| **Major minerals** | **:** Clay sized particles,< 1/256 mm |
| **Minor minerals** | **:**Fine matrix |
| **TYPE** | **Clastic sedimentary rock** |
| **This rock is identified as SHALE** | |

- **METAMORPHIC ROCKS**

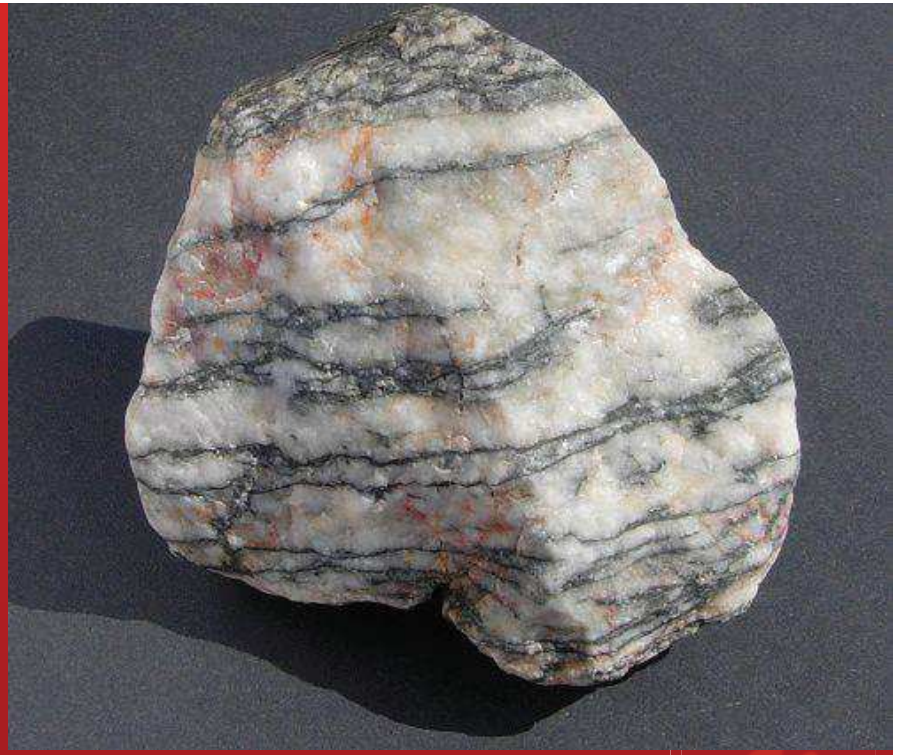
SPECIMEN NO:7

# CHLORITE SCHIST

| TEXTURE /STRUCTURE | Medium to coarse Grained |
|---|---|
| MINERALOGY<br>Major minerals | : chlorite |
| Minor minerals | :Quartz, Garnet |
| TYPE | Foliated metamorphic rocks |
| This rock is identified as CHLORITE SCHIST | |

SPECIMEN NO:8

# GNEISS



| | |
|---|---|
| **TEXTURE /STRUCTURE** | **Alternating layers of light (felsic) and dark (mafic) minerals Medium to coarse grained** |
| **MINERALOGY** **Major minerals** | **:** Feldspar, Quartz |
| **Minor minerals** | **:**Hornblende, Garnet |
| **TYPE** | **Foliated metamorphic rocks** |
| **This rock is identified as GNEISS** | |

SPECIMEN NO:9

# SLATE

| | |
|---|---|
| **TEXTURE /STRUCTURE** | **Fine grained,** minerals not visible |
| **MINERALOGY**<br>**Major minerals** | **:**Very fine grained ,no visible minerals . Minerals with basal cleavage: commonly mica , graphite, etc |
| **Minor minerals** | **:**Very fine grained, no visible minerals |
| **TYPE** | **Foliated metamorphic rocks** |
| **This rock is identified as SLATE** | |

SPECIMEN NO:10

# QUARTZITE

| | |
|---|---|
| **TEXTURE /STRUCTURE** | Granular ,Medium to coarse grained and non oriented grains |
| **MINERALOGY** **Major minerals** | **:**Quartz |
| **Minor minerals** | **:Feldspar** |
| **TYPE** | **Non Foliated metamorphic rocks** |
| **This rock is identified as QUARTZITE** | |