

## B. Sc. SECOND YEAR GEOLOGY PRACTICAL 2020-2021

The Examination will be of four hours' duration.

Maximum Marks 75

### Petrology

- |                                     |    |
|-------------------------------------|----|
| 1. Study of rocks in hand specimens | 08 |
| 2. Microscopic study of rocks       | 07 |

### Structural Geology

- |                                                                   |    |
|-------------------------------------------------------------------|----|
| 3. Interpretation and drawing of section of simple geological map | 10 |
| 4. Problem of true and apparent dips                              | 05 |

### Stratigraphy

- |                                                             |    |
|-------------------------------------------------------------|----|
| 5. Stratigraphic rocks.                                     | 10 |
| 6. Sketch map of Indian formations and palaeographic period | 05 |
| 7. Field report                                             | 15 |
| 8. Viva-Voce                                                | 05 |
| 9. Record                                                   | 10 |

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**Total** **75**

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### STRUCTURAL GEOLOGY:

1. Study of topographic maps. Interpretation of topography from contour maps.
2. Orientation of planes and lines; dip, strike, pitch and plunge. Use of clinometer compass.
3. Study and interpretation of outcrop patterns. True and apparent thickness of beds, study of simple geological maps and drawing of sections.
4. Basic principles of stereographic and orthographic projections.

### PETROLOGY:

(1) Identification of igneous, metamorphic and sedimentary rocks in hand specimens as per list given below:

#### **Igneous Rocks:** -

Granite, granodiorite, syenite, diorite, anorthosite, norite, gabbro, pyroxenite, peridotite, nepheline syenite, pegmatite, dolerite, basalt and rhyolite.

#### **Metamorphic Rocks:** -

Quartzite, marble, granite gneiss, mica schist, phyllite, slate, amphibolite, charnockite, mylonite and migmatitic gneiss.

**Checked and Approved**

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(Dr. Maya Chaudhary)

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Dr. Harish Kapasya

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### **Sedimentary Rocks: -**

Sandstone, limestone, shale, conglomerate, arkose, grit, greywacke, and breccia.

(2) Petrographic study of the following rocks under microscope: granite, syenite, diorite, gabbro, dolerite, rhyolite, basalt, mica schist, granite gneiss, amphibolite, marble, sandstone and limestone.

### **STRATIGRAPHY:**

Identification and description of important stratigraphic rocks of India and their assignment to respective stratigraphic position. Plotting of following stratigraphic units and their equivalents in the outline map of India. Delhi-Aravalli fold belts, Main Vindhyan Basin, Gondwana Supergroup, Deccan Traps and Siwalik Group. Preparation of palaeogeographic maps of Permocarboniferous and Cretaceous periods.

### **FIELD WORK:**

Field work for 3 day for training in geological mapping of rock units and measurement of Structural features.

**Students not taking part in the field work will not be awarded marks for the field work.**

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**B. Sc. Second Year Science 2020-2021**  
**BOOKS SUGGESTED**

**Books suggested, besides the Internet: B. Sc. Part II**

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**Billings M. P.:** Structural Geology, Prentice Hall of India Pvt. Ltd., New Delhi.

**Bolton T.:** Geological Maps their solution and interpretation, Cambridge University Press

**Haung G. N.:** Petrology

**Kirshnan M. S.:** Geology of India and Burma, CBS Publishers & Distributors, Delhi.

**Lemon R. R.:** Principles of Stratigraphy, Merill Publishing Company, London

**Mukerjee P. K.:** A Textbook of Geology, The world Press Pvt. Ltd., Calcutta.

**Naqvi S.M. & Rogers J. J.W.:** Precambrian Geology of India. Oxford University Press.

**Parbin Singh:** Engineering & General Geology, S. K. Kataria & Sons, New Delhi.

**Pettijohn F. J.:** Sedimentary Rocks, CBS Publishers & Distributors, Delhi.

**Ravindra Kumar:** Fundamentals of Historical Geology and Stratigraphy of India, Wiley  
Eastern Ltd., New Delhi.

**Sinha Roy, S., Malhotra, G., & Mohanty, M.,** 1998: Geology of Rajasthan, Geological Society  
of India, Bangalore, pp278.

**Tyrrell G. W.:** The principles of Petrology, B. I. Publications Pvt. Ltd., Delhi.

**Weller J. M.:** Stratigraphic Principles and Practice, Universal Book Stall, Delhi.

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