

B.Sc. (CBCS) Geology - II Year
Semester - IV : Theory Paper - IV
Sedimentary Petrology and Structural Geology

(4 hrs/week)

Credits-4
(60 hours)

UNIT – I

Sedimentary Rocks: Sources of sediments – mechanical and chemical weathering, modes of transportation, stratification. Sedimentary structures, types of bedding, surface marks, deformed bedding solution structures.

UNIT II

Classification of Sedimentary Rocks: Clastic rocks – rudaceous, arenaceous, argillaceous, non-clastic rocks - calcareous, carbonaceous, ferruginous, phosphatic, evaporites.

Descriptive Study of the following sedimentary rocks – conglomerate, Breccia, Sandstone, Grit, Arkose, Greywacke, Shale, limestone, Shelly limestone.

UNIT-III

Structural Geology: Definition, aim and objectives of the Structural Geology; primary and secondary structures; outcrop, attitude of beds; strike, dip and apparent dip, use of clinometer. Primary structures, Folds – description, nomenclature and types of folds, recognition of folds in the field.

UNIT - IV

Joints – Geometrical and genetic classification of Joints, sheeting.

Faults – Geometrical and genetic classification of faults, recognition of faults in the field, effects of faults on the outcrops.

Unconformities – definition of unconformity – types of Unconformities, recognition of Unconformities in the field, distinguishing the faults from the Unconformities. Definitions of overlap, offlap, outlier, foliation and lineation, cleavage and schistosity.

Practicals: (3 hrs/week)

45 hrs (Credits: 1)

1. Megascopic and Microscopic examination of Sedimentary rocks like Breccia, Conglomerate, sandstone, limestone, shale.

2. Study of Topographical maps.

3. Interpretation of simple geological maps with horizontal and inclined beds, unconformity, folds and faults with reference to the topography and structure, geological succession and history.

4. Problems dealing with true dip and apparent dip. Calculation of strike and dip from Bore-hole data, thickness and width of the outcrop and dip of the beds.

Text Books:

1. The Principles of Petrology, G.W. Tyrrell.

2. Structural Geology - Marland. F.Billings.

References:

2. Petrology for students - S.R.Nockolds Knox, Chinnar.

3. A Text book of Sedimentary Petrology - Verma & Prasad.

4. Petrology of the Sedimentary Rocks - J.T.Greensmith.

5. Petrology of the Sedimentary Rocks - F.H.Hatch, Wells and Wells.

6. An outline of structural Geology - E.S..Hills.

7. Structural Geology - L.U.De Setter.

8. Elements of Structural Geology - E.S.Hills.

FACULTY OF SCIENCE
B.Sc. (CBCS) - II Year Examination
GEOLOGY
Semester-IV : Paper IV
(Sedimentary Petrology and Structural Geology)

Credits : 4
Max.Marks:40

Time: 2 Hours

Section-A (Marks: 4 x 2 = 8)

Write short notes on any four of the following:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Note: Two short answer type questions from each unit.

Section-B (Marks: 4 x 8 =32)

(Essay questions)

1. a)

or

b)

2.a)

or

b)

3.a)

or

b)

4.a)

or

b)

Note: Two essay type questions from each unit with internal choice.

B.Sc. (CBCS) - II Year Practical Examination
GEOLOGY
Semester-IV : Paper IV
(Sedimentary Petrology and Structural Geology)

Credits : 1
Max.Marks:25

Time: 2½ Hours

Practical Model Paper

- 1) Identify the given rock samples 1-6 and write their mineralogy, texture, structure, mode of occurrence and origin. (6x2 = 12)
- 2) From the given geological map draw a profile along x-y section and describe the topography and geology of the area. (5)
- 3) Solve the given geological problem. (4)
- 4) Record & Viva (4)