17. Geology

B.A. / B.Sc. Geology-II **Total Mark: 100**

Appendix 'A'

(Outlines of Tests)

Paper-A:	Geomorphology : Paleontology/Stratigraphy (Written):		75 Marks
Paper-B:	Practical	:	25 Marks

Appendix 'B'

(Syllabi and Courses of Reading)

Paper-A: Geomorphology:Paleontology/Stratigraphy 75 Marks

Section-I: Geomorphology 25 Marks

Weathering and soils: Processes of physical and chemical weathering: their effects: growth and nature of soils.

Fluviol Processes: Valley development: Base level and its types: drainage Patterns and their significance;stream meandering and the development of Flood Plain ; Concept of a Geomorphic cycle; Rejuvenation and its evidence; Aggregation; River Terraces and their significance.

Glaciation: Types of Glacier; Glacial ErosionalFeature; the unstratified Deposit (Till).

Wind Action! Wind Erosional land forms, Dunes and Locess.

Introduction of modern trends and techniques.

Section-II: Paleontology and Stratigraphy 50 Marks

(i) Stratigraphy:

Introduction to the Principles of Stratigraphy: Stratigraphy of Pakistan in brief.

(ii) Paleontology (Invertebrates).

Fossils: Fossilization, modes of Preservation, Geological Significance.

Protozoa: Morphological features of the. foraminiferal test, characteristic features of Nummulites, Discocyclina, Operaculina Assiliana, Lcageria, Nodosaria, Lenticulina, Textularia, Uvjgerina, Globigerina, Triloculina, Ammonia, Geological significance of forminifera,

Coelenterata: Morphology of Rugose, Seleractonian (Hexacorals) and Tabulate Corals and their geological distribution Characteristic features of Calceola, zephrentls, Heliophyhum, Parasmilia, Streptelaema, Lithostrotion, Lonsdaleia Fevosites, Halysites.

Graptozoa: Morphological features, evolution and geological importance of Graptolites, Characteristic features of Monograptus, Diplograptus, Tetragraptus Phylograptus Didymograptus.

Bryozoa; Salient features of Bryozoans and their geological importance.

Echlnoderma: Morphology of the ancient and modern Echinoid Tests and their geological range, Characteristic features of Cidaris, Micraster, Clypeus, Scutelle. Hemicidaris Conulus, Morphological Features of the Crinoids and their geological distribution Characteristic features of Encrinns.

Pentacrinus, Apiocrinus. Salient features of Blastoid genus Pentremites.

Brachiopoda: Morphology of the Brachiopod shells and their geological distribution, Characteristic features of Productus, Spirifer, Terebratula, Atrypa, Derbyia, Atgvis, Hebertella, Streptorhynchus, Spirigerella

Mollusca. Morphology of the Lamellibranchshells, Characteristic feature of Area, Glycime is. Trigonia Venus, Pectcn, Ostrea, Exogyra, Gryphaea, Gcrvillea, Inccramus,

Hippuritis, Morphological features of the Gastropod shall, Characteristic features of Bellerophin, Troebus, Nerinca, Fusus, Turritella. Cerithium, Murex, Voluta, Conus, Motphological features and geological importance of Caphalopods, Characteristic feature of Nautilus, O thoceras Harrisoceras, Goniatites, Ceratites, Baculites, Hildoeceras, Boulciceras. Perisphinctes, Belemnopsis.

Arthropoada: Morphological features of Trilobites and their geological significance characteristic feature of Trmuiclcus, Paradoxides, Calymene, Redlichia, Phacops.

Introduction of modern trends and techniques

Paper-B: Practical: 25 Marks

Geological Encursion, Fields notds and viva

RecommendedBooks:

1. Principles of Physical Geologo 2nd Edition, Holmes.
2. Introduction to Physical Geology: Longwell and Flaint.
3. Dana's Manual of Mineralogy : Hurlb.it.
4. Minerals and the Microscope; Smith revised by M.K.Wells.
5. Principles of Petrology; G.W. Tyroll.
6. Petrology for Students; A. Horkar

7. Petrology of the Igneous Rocks: F.H. Hotch and M.K. Wells (11thEdn.)
8. Metamorphism: Harkar.
9. The Study of Rocks in this Section, W W. Moorhousc, 1964 (l.S.E.)
10. Invertcprate Fossils ; Niirem Kakucker/Fischer.
11. Stratigraphy an Introduction to Principles: D.T. Donovon, 1966.
12. Petrology: Haung.
13. Optical Mineralogy ; P.E. Kerr.
14. Minerology : Berry and Mason.
15. Recognition of structural features and thesr orientation.
16. Geological Raw moterialal. Mining and industry.

Every student will maintain a field note hook. He will carry out samples, labelling and book entries. This note book will be presented at the time of Viva Voce examination, which should be property signed by the concern teacher/s in the field.