

( Geology, Zoology, English, Marathi )

पुणे विद्यापीठ

परिपत्रक क्र. १७१-१९९०

विषय : द्वितीय वर्ष विज्ञान भूशास्त्र सुधारित अभ्यासक्रम

विद्यापीठ अधिकार मंडळाच्या निर्णयानुसार सर्व संबंधितांच्या माहितीसाठी कळविण्यात येते की, द्वितीय वर्ष विज्ञान भूशास्त्र यासाठी सुधारित अभ्यासक्रमास मंजूरी देण्यात आलेली आहे. सुधारित अभ्यासक्रम परिशिष्ट "अ" मध्ये दिलेला असून जून १९९० पासून लागू करण्यात येईल.

गणेशखिंड, पुणे ४११००७  
वा. क्र. सीबी/६५१  
दिनांक १८ जून, १९९०

वि. शां. पोळ,  
कुलसचिवांकरिता.

Syllabus for S.Y.B.Sc. Geology

Paper I : Mineralogy, Crystallography and Mineral optics—  
Term I.

Petrology : Term II.

Paper II : Structural Geology— Term I.

Principles of stratigraphy and outlines of Indian Geology  
Term II.

Paper I : Mineralogy, Crystallography and Mineral optics—  
Paper I Term Ist.

*Mineralogy* : Study of Neso, Ino, Phyllo, Tecto, Soro, and  
Cyclo silicates. Classification of silicate minerals based on  
silicate structures.

Study of silicate structure, general characters, chemical relationship, physical and optical properties and occurrences of : Olivine, Pyroxene (Hess Triangular diagram, Augite Series, Orthopyroxene series). Amphibole (Tremolite, Actinolite, Hornblende, Basaltic hornblende), Mica, Feldspar (alkali and calc-alkali), Silica, Garnet, Alumino silicate. 14

*Crystallography* : Comparative study of following : Cubic system (Pyrite and tetrahedrite). Hexagonal system (Beryl, calcite, tourmaline, quartz). Monoclinic (gypsum), Triclinic (Axinite).

Definition of hemihedral, hemimorphic and holohedral forms. 4

*Mineral Optics* : Phenomenon of isotropism and anisotropism. Phenomenon of interference colours extinction in minerals measurement of extinction angles, Newton's scale, study of quartz wedge. Synopsis of examination of minerals under the petrological microscope. 12

**Petrology : Paper I : Term II**

*Igneous Petrology* : Formation of igneous rocks, crystallisation of unicomponent magma.

Factors controlling grain size of rocks.

*Textures* : Intergranular, intersertal, graphic, directive, intergrowth.

*Structures* : Xenolithic, orbicular, spherulitic, perlitic, expansion cracks.

Classification based on chemical, mineral composition colour index, texture and geological occurrence. (Tabular classification).

*Sedimentary Petrology* : Study of residual deposits (laterite, bauxite and soils).

Clastic and nonclastic sediments : Introduction.

*Textures* : Particle size, definition of size terms. Classification based on size. Shape and roundness. Porosity and permeability.

Factors influencing size, shape, roundness, porosity and permeability.

Mineralogical and chemical composition of sedimentary rocks. Structures of sedimentary rocks. (Chemical, mechanical and organic).

*Metamorphic Petrology :*

1. General characters of Metamorphism.
2. Metamorphic minerals processes and structures.
3. Cataclastic metamorphism & its products slate, slaty cleavage, crush breccias, crush conglomerate, cataclasite, Augen gness and Mylonite.
4. Thermal metamorphism of :
  - (a) Pure limestones.
  - (b) Arenaceous rocks.
5. Dynamothermal metamorphism of Argillaceous rocks Quartzo-felspathic rocks. Basic igneous rocks.

**Structural Geology : Paper II ; Term I**

*Introduction :* Definition and its relation with other branches of geology and objectives.

Concepts of strike, Dip (True and Apparent), Stratification Outlier, True and Vertical thickness of beds, width of outcrop, Clinometer compass.

*Folds :* Definition of elements of folds, axis, axial plane limb, hinge, crystal line-plane, trough line-plane.

Definition and characters of the following :

Anticline, syncline, anticlinorium, synclinorium, symmetrical, assymetrical, overturned, recumbent, isoclinal, chevron, box, fan monocline, homoclinal, structural terrance, open, close, drag decollement, diapir, disharmonic, suprataneous, doubly plunging, dome, and basin, plunging and non-plunging folds, concept of fold system, refolding, method to find out depth of folding.

Recognition of folds by :

Direct observation

Plotting of attitude of beds on map

Areal map pattern,

Topographic study

Drilling and mining data.

*Faults :*

Definition of the terms associated with faults. Movements, translations and rotational, absolute, relative and apparent movements along the faults. Various slips and separation along the fault, shift along the fault.

Brief introduction to effects of faulting on disrupted strata.  
Classification-geometric and genetic. 11

*Joints :*

Definition.

General characters

Geometric and genetic classification. 4

**Principles of stratigraphy and outline of Indian Geology : Paper II :****Term II**

*Principles of stratigraphy :* 25

Principles of stratigraphy-Early and Modern.

Processes of stratigraphic development.

Vertical succession.

Horizontal succession.

Unconformities :

Structural and environmental classification.

Magnitudes of unconformities.

Importance and recognition of unconformities in the field, evidences.

Brief study of Palaeozoic, Mesozoic, and Cenozoic era-life

Stratigraphic time scale.

Principles of correlation.

Litho -

Bio -

Time stratigraphic unit. 11

*General outline of Indian geology :*

Physiographic division of India and their comparison.

Hollands scheme of classification.

Geographical distribution, structural and lithological characters in brief and economic importance of :

Archeans  
 Dharwars  
 Cudappah  
 Vindhyan  
 Gondwanas  
 Cretaceous  
 Deccan Traps  
 Tertiary.

### S.Y.B.Sc. Practicals

**Mineralogy :**

**Megascopic :** In addition to those studied in F.Y.B.Sc. following minerals are to be studied.

Chlorite, Staurolite, Apophyllite, Cuprite, Azurite, Malachite,

**Microscopic :** Study of the optical properties and identification of the following minerals in thin section. Quartz, Calcite, Orthoclase, Olivine, Actinolite, Tourmaline, Augite, Biotite, Muscovite, Hornblende, Microcline, Plagioclase, Garnet. Crystallography. Hexagonal system : Beryl, Calcite. Tourmaline and quartz type. Cubic system : Pyrite and Tetrahedrite type. Monoclinic System : Gypsum type Triclinic System : Axinite type.

**Petrology :**

**Megascopic :** In addition to F.Y.B.Sc. Dunite, Diorite, Syenite, Graphite-granite, Pitchstone, Dolerite, Pumice, obsidian, Oolite, arkose, freestone, ferruginous sandstone, meliolic limestone, coral limestone, shell limestone, stalactite-stalagmite, laterite-bauxite.

Actinolite schist, mica-schist, mica-garnet schist, Biotite gneiss, marble and its varieties quartzite, Phyllite, granite gneiss Augen gneiss.

**Microscopic :** Granite, Gabbro, Basalt, Pitchstone, Sandstone, Nummulitic Limestone, Marble, Quartzite, Hornblende Schist, Mica garnet Schist, and Hornblende Gneiss.

Palaeontology :

Fossils of different groups studied in F.Y.B.Sc.

Total.. 10

Structural problems and maps :

Structural problems : Involving true dip (in degrees and gradients) width of outcrop vertical thickness and true thickness of beds. (Slope in degrees).

Structural maps : Maps involving one or two conformable series with angular unconformities vertical dyke, vertical one or two faults.

Field work : In selected area under guidance.

#### Books

1. Elements of mineralogy Rulky.
2. Text Book of mineralogy Dana and Ford.
3. Mineralogy Deer How. Zerkow.
4. Petrology Ferry.
5. Sedimentary rocks Pett join.
6. Principles of stratigraphy - Wetlar.
7. Historical Geology Dunbar.
8. Stratigraphy of India and Burma - M. S. Krishnan.
9. Structural Geology.—Billings.

### पुणे विद्यापीठ

परिपत्रक क्र. १४६- १९९०

विषय : एस्.वाय. व टी.वाय.बी.एस्सी प्राणिशास्त्र अभ्यासक्रम

विद्यापीठ अधिकार मंडळाच्या निर्णयानुसार सर्व संबंधितांच्या माहितीसाठी कळविण्यात येते की, एस्.वाय. व टी.वाय.बी.एस्सी. प्राणिशास्त्र अभ्यासक्रमातील सोबतच्या परिशिष्टात दर्शविणारे बदल करण्यात आले आहेत याची संबंधितांनी नोंद घ्यावी. हे बदल जून १९९० पासून अंमलात येतील.

गणेशखिंद, पुणे ४११००३  
जा. क्र सी.बी./प्राणिशास्त्र  
दिनांक : ७-५-१९९०

वि. शां. पोळ  
कुलसचिवांकरिता.

**S.Y.B.Sc. Zoology**

On page No. 2 of circular No. 105 of 1988 the following title be added.

S.Y.B.Sc.—Zoology—Paper—I, Section I. Non chordates—II.

**Non choradates II : Paper I : Section I :**

(I) Leech : (a) Delete 'Physiology of excretion'.

(II) Star-fish : (v) Delete 'musculature'.

(III) Classification :

'Study of the general and distinguishing characters and examples of the following phyla and groups of animals'.

The above instruction be changed as follows—

'Study of the general and distinguishing characters of the following phyla and respective classes'.

**Chordates II : Paper I : Section II :**

(II) Scolicodon : (6) Delete the word 'musculature'.

(III) Classification : 'Study of the general and distinguishing characters and examples of the following groups of animals'.

The above instruction be changed as follows :

'Study of the general and distinguishing characters of the following groups and examples of respective orders'.

For class aves and mammalia only following orders be studied.

*Class Aves* : Order—1. Psittaciformes., 2. Falconiformes.,  
3. Anseriformes., 4. Passeriformes.

*Class Mammalia* : Order—1. Monotremata., 2. Marsupialia.,  
3. Insectivora., 4. Chiroptera. 5. Primates., 6. Rodetia.

**S.Y.B.Sc. Zoology—Practicals**

*Paper—III*

(II) Nonchordates—Star—fish :

3. Add gonads in addition to pedicellariae.

(III) *Non chordates* :

*Classification* : 'Study of general and distinguishing characters of the illustrative examples of the prescribed phyla and groups under paper—I, section—I, (D).

The above instruction be changed as follows :

\* Study of general and distinguishing characters of the prescribed phyla with at least one example from each class under paper—I, section- I (D).

(VI) *Chordates* :

*Classification* : \* Study of general and distinguishing characters of the illustrative examples of the prescribed phyla and groups under paper- I, Section -II (D) '.

The above instruction be changes as follows :

\* Study of general and distinguishing characters of the prescribed phyla with at least one example from each order under paper- I, section -II (D) '.

(VII) *General embryology* :

\* Study of whole mounts and transverse sections of embryo of chick upto 72 hours (D).

The above instruction be changed as follows :

(a) Study of whole mounts and transverse sections of chick upto 24 hrs., 32 hrs., 48 hrs. and 72 hrs.

(b) Study of histological sections of chick upto 24 hrs., 32 hrs. and 48 hrs. through—

- (i) 24 hrs. (neural tube).
- (ii) 32 hrs. (heart and brain).
- (iii) 48 hrs. (heart and brain).

(VIII) *Histology of mammals* :

(2) Add '(E)' at the end of instruction.

**Scheme for the conduct of practical examination at S.V.B.Sc.**

Q. No. 3 : \* Identification of 8 specimens as per instructions'.  
16 marks

The above instruction be changes as follows :

Q. No. 3 : \* Identification of 4 specimens from non-chordates and 4 specimens from chordates as per instructions '.

16 marks

Q. No. 6 : \* Identification of 7 embryological and histological preparations '.

14 marks

Q. No. 6 : \* Identification of 3 embryological and 4 histological slides/preparation '.

14 marks



## UNIVERSITY OF POONA

Circular No. 162 of 1990

*Subject* :—Text books for S.Y.B.Sc. English and Format of question Paper.

In pursuance of the decision taken by the University authorities it is hereby notified for the information of all concerned that the prescribed text books of English for S.Y.B.Sc. and the Format of the question Paper for the Academic years 1990-91, 91-92 and 92-93 are as per given in the enclosure.

Ganeshkind, Pune-411007  
CBA/637  
Date : 11/6/1990

V. S. Pol,  
for Registrar.

S.Y.B.Sc. English—(1990-91, 91-92 and 92-93)

*Prescribed Text books and format.*

Books : Prescribed : (1990-91, 91-92 and 92-93).

Teaching : Four Period a week : Marks : 100.

1. Vanikar Ranu : *Corridors to Communication* (Orient Longman) Following Topics only to be studied :  
1. Reading, 2. Note Making and Taking, 3. Written Presentation, 4. Reporting.

*Note* :—The Units under each topics given in the book are to be used only as Models.

2. Wood F. T. : *A Remedial English Grammar for Foreign Studies* (Macmillan). Topics : 1 to 16, 19 and 20.
3. Vasudevan, S. A. : *Perspectives* (Orient Longman) and Satya Sabu M.

*Books Recommended*

1. Home, Croften : *Essay Precs Composition and Comprehension* (MacMillan).
2. Bhaskaran and Morsburg : *Strengthen your English* (Oxford Uty., Press).

3. *Augustina and Joseph : Macmillan Grammar : A Handbook ( Macmillan ).*
4. *Green David : Contemporary English Grammar Structures and Composition.*

*Portion for the Term-End Examination with marks.*

This will be a 60 marks paper of two hours duration, with four questions each question, carrying 15 marks. For each question there will be adequate alternatives.

1. Description and narration either Scientific or non-Scientific.
2. Note taking/writing report and arguing on given topic.
3. Comprehension (A unseen passage of about 300 words).
4. Grammar : 1. Fill in the blanks, 2. Do as directed, 3. Correct the following.

*Portion for The Annual Examination*

This will be 80 marks paper, with three hours duration and five questions each, carrying 16 marks. For every question there will be adequate alternatives.

Q. 1. Arguing on a given topic.

Q. 2. Description or narration either Scientific or non-Scientific or Note taking or Writing a report.

(Note : The first two question will be based on corridors to communication).

Q. 3. Perspectives.

Q. 4. Perspectives.

Essay type of two short note to be attempted.

OR

Q. 5. Essay on any one of the five topic given (length 480 to 450 words).

OR

Precies : an unseen press passage of about 300 words to be reduced to its one third.

## पुणे विद्यापीठ

परिपत्रक क्र. १८९ / १९९०

विषय : द्वितीय वर्ष विज्ञान सत्र ३ साठी मराठी

विषयाचे पाठ्यपुस्तका बाबत . . . . .

विद्यापीठ अधिकार मंडळाचे निर्णयानुसार सर्व संबंधितांच्या माहितीसाठी कळविण्यात येते की, १९९०-९१ या वर्षापासून द्वितीय वर्ष विज्ञान सत्र ३ साठी विद्यापीठाने छापून प्रसिद्ध केलेले "द्वितीय वर्ष विज्ञान मराठी पाठ्यपुस्तक" हे पुस्तक अभ्यासास नेमण्यात आले आहे. या पुस्तकाचा कालावधी १९९०-९१, १९९१-९२ व १९९२-९३ असा राहिल. सदर पुस्तकाची किंमत रु. २०/- इतकी असून विद्यापीठाच्या प्रकाशन विभागात उपलब्ध होईल.

सत्र ४ साठी नेहमीचाच अभ्यासक्रम म्हणजे व्यावहारिक मराठी हा राहिल.

गणेशखिड, पुणे ४११००७ }  
सीबीए/७९३ }  
दिनांक:- १२-७-१९९० }

कुलसचिवांकरिता  
वि. गां. पोळ

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