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FOR MANIPUR CLASS 12 PREPARATION

Manipur Board Class 12 Syllabus 2027 Geology

EXAM	YEAR	TYPE	SUBJECT
Manipur Class 12	2027	Syllabus	Geology

GEOLOGY

CLASS-XII

THEORY

One Paper **3 Hours** **7O Marks**

Unit	Unitwise Weightage	Marks	Periods
I.	Structural Geology	15 marks	40 periods
II.	General Stratigraphy and Indian Stratigrapy	20 marks	50 periods
III.	Petrology	20 marks	50 periods
IV.	Applied Geology	15 marks	40 periods

Unit I : Structural Geology **40 Periods : 15 Marks**

(i) Definition and scope of structural Geology.

(ii) Study and measurement of the dip and strike of beds.

(iii) Concept of contour.

(iv) Definition, parts and types of fold.

(v) Definition, Parts, relative movements and types of fault.

(vi) Definition and types of joints.

(vii) Definition, types and significance of unconformities.

Unit II : General Stratigraphy and Indian Stratigraphy **50 Periods : 20 Marks**

(i) Definition, Principles and units of Stratigraphy.

(ii) Development and sub divisions of Geological time scale and factors of stratigraphic correlation.

(iii) Geomorphic divisions of India.

(iv) Study of following stratigraphic systems of India-Dharwar system of Mysore, Vindhyan system of sone Valley, Gondwana system and Tertiaries of N.E. India (Assam and Manipur)

Unit III : Petrology **50 Periods : 20 Marks**

(i) Definition and types of rocks-Igneous, Sedimentary and Metamorphic and the Criteria for distinguishing them in hand specimens.

(ii) Magma-definition and composition.

(iii) Igneous rock-Intrusive and extrusive forms and study of texture, structures, classification of igneous rocks based on Chemical composition, mineralogical composition and mode of occurence.

(iv) Sedimentary rocks-Environment of deposition, Classification of Sedimentary rocks into Clastic and Non-clastics, Structure and texture of Sedimentary rocks.

(v) Metamorphic rock-agents and types of Metamorphism, study of simple structure and texture of Metamorpic rocks.

(vi) Study of mineralogical, structural feature and mode of occurrence of the following rock types-Granite, Dolerite, Diorite, Gabbro, Dunite, Peridotite, Pegmatite, Rhyolite, Basalt, Slate, Schist Gneiss, Marble Quartzite, Sandstone, Limestone, Shale, Conglomerate.

Unit IV : Applied Geology **40 Periods : 15 Marks**

(i) Elementary knowledge of - Mineral deposits, mineral exploration and prospecting

(ii) Soil erosion - causes and its prevention.

(iii) Landslide - causes and its prevention.

(iv) Geology of underground water.

(v) Selection of construction materials.

(vi) Site selection of dam construction.

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GEOLOGY

CLASS-XII

PRACTICAL

One Paper **3 Hours** **3O Marks**

Unit	Unitwise Weightage	Marks
I.	Geological Maps	10 marks
II.	Rock hand specimens	08 marks
III.	Geographical distribution of Stratigraphic System	02 marks
IV.	Geological field report	04 marks
V.	Practical Note Book	04 marks
VI.	Viva-Voce	02 marks

Experiments :

(i) Determination of strike direction, dip direction and amount of dip of an incline surface with the help of clinometer compass.

(ii) Description of geological map and drawing of profile.

(iii) Recognition of rock hand specimens of the following-Granite, Gabbro, Doletrite, Dunite, Peridotite, Pegmatite, Rhyolite, Basalt, Slate, Schist, Marble, Quartzite, Sandstone, Limestone, Shale, Conglomerate.

(iv) Geographical distribution of the following stratigraphic systems-Dharwar system; Vindhyan system of sone valley, Gondwana system, Tertiaries of N.E. India.

(v) Geological Field Report-Field work is compulsory and reports of the field work are to be submitted at the time of examination.

No student can appear practical examination without submittion of field report.

(vi) Practical Note Book.

(vii) Viva-Voce.

Prescribed Textbook for Classes XI & XII :

1. Text Book of Geology - P.K. Mukherjee
(The world Press Pvt. Ltd. Calcutta)
2. Text Book of Geology - G.B. Mahapatra
(C.B.S. Publisher and Distributor, New Delhi)
3. Laboratory Manual of Geology - A.K. Sen
(Modern Book Agency Pvt. Ltd. Calcutta)

Reference Books for Classes XI & XII :

1. Physical Geology - Dutta A.K.
   (Modern Book Agencies Ptv. Ltd. Calcutta)
2. Economic Geology - Sen and Guha
   (Modern Book Agencies Ptv. Ltd. Calcutta)
3. Principles of petrology - Tyrrel G.W.
   (B.I. Publication Pvt. Ltd. New Delhi)
4. Text Book of Palaeontology-Woods
   (C.B.S. Publisher and Distributor, Delhi)
5. Rutley's Elements of Mineralogy-Read N.H.
   (C.B.S. Publisher and Distributor, Delhi)
6. Structural Geology - M.P. Billings
   (Prentice Hall of India Ltd. New Delhi)

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FROM THE ACADEMIC SESSION 2025-26

DESIGN OF QUESTION PAPER

Subject : **GEOLOGY**
Paper : Theory
Class : XII
Full Mark : 70
Time : 3 Hours

I. WEIGHTAGE TO OBJECTIVES :

Objectives	Marks	Percentage
Knowledge (K)	10	15
Understanding (U)	35	50
Application (A)	21	30
Skill (S)	04	05
Total :	**70**	**100**

II. WEIGHTAGE TO FORM OF QUESTIONS :

Form of Questions	No. of Question	Time (in minutes)	Marks	Percentage
Essay/Long Answer (E/LA)	3	52	15	21
Short Answer (SA-I)	6	54	18	26
Short Answer (SA-II)	10	50	20	29
Very Short Answer (VSA)	7	14	7	10
MCQ	10	10	10	14
Total :	**36**	**180**	**70**	**100**

III. WEIGHTAGE TO CONTENTS:

Unit/Content:		Marks	Percentage
I.	Structural Geology	15	21
II.	General Stratigraphy and Indian spratigraphy	20	29
III.	Petrology	20	29
IV.	Applied Geology	15	21
Total :		**70**	**100**

IV. SCEHEME OF SECTIONS : Nil

V. SCHEME OF OPTIONS : 100% in SA-I and Essay

VI. DIFFICULTY LEVEL :

Difficult : 30% of the total marks
Average : 50% of the total marks
Easy : 20% of the total marks

Abbreviation : K(Knowledge), U(Understanding), C(Comprehension), Exp.(Expression), Skill(S), E(Essay Type), SA (Short Answer Type), VSA (Very Short Answer Type), MCQ(Multiple Choice Question)

NOTE- (i) Two questions out of 10 (ten) questions of MCQ will be assertion & reason type question.
(ii) Only one question of SA-I will be Case Study Based question.

DESIGN
QUESTION PAPER/UNIT TEST

Subject : GEOLOGY
Unit/Paper : Practical
Class : XII
Time : 3 Hours
Full Marks : 30

I. WEIGHTAGE TO OBJECTIVES :

Objectives	K	U	A	S	Total
Percentage of Marks	13	20	27	40	100
Marks	04	06	08	12	30

II. WEIGHTAGE TO FORM OF QUESTIONS :

Forms of Questions	E	SA-I	SA-II	VSA	O	Total
No. of Questions	03	06	04	02	-	15
Marks Allotted	12	12	04	02	-	30
Estimated Time (in Minutes)	60	90	20	10	-	**180**

III. WEIGHTAGE TO CONTENT :

	Units/Sub-units	Marks
1.	Determination of dip and strike	2
2.	Geological mapping	8
3.	Identification of rock and specimens	8
4.	Stratigraphical distribution of systems	2
5.	Geological field report	4
6.	Practical Note book	4
7.	Viva Voce	2
	Total :	**30**

IV. SCHEME OF SECTION : Nil

V. SCHEME OF OPTIONS: Nil

VI. DIFFICULTY LEVEL :

Difficult : 30% of the total marks
Average : 50% of the total marks
Easy : 20% of the total marks

Abbreviation : K (Knowledge), U (Understanding), A (Application), S (Skill), E (Essay Type), SA (Short Answer Type), VSA (Very Short Answer Type), O (Objective Type)

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