



# P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

**Fifth Semester, B.E. - Civil Engineering**

**Semester End Examination; February / March - 2022**

**Applied Geology**

Time: 3 hrs

Max. Marks: 100

### Course Outcomes

The Students will be able to:

CO1: Students will able to apply the knowledge of geology and its role in Civil Engineering.

CO2: Students will effectively utilize earth's materials such as mineral, rocks and water in Civil engineering practices.

CO3: Analyze the natural disasters and their mitigation.

CO4: Assess various structural features and geological tools in ground water exploration.

CO5: Natural resource estimation and solving civil engineering problems.

**Note:** I) PART - A is compulsory. Two marks for each question.

II) PART - B: Answer any **Two** sub questions (from a, b, c) for Maximum of **18 marks** from each unit.

Q. No.	Questions	Marks	BLs	COs	POs
<b>I : PART - A</b>		<b>10</b>			
I a.	What is mechanical weathering?	2	L1	CO1	PO1
b.	Define Fracture with examples.	2	L1	CO2	PO1
c.	Civil Engineering uses of granite.	2	L1	CO3	PO2
d.	Define Dip and Strike.	2	L1	CO4	PO2
e.	What is Tunnel?	2	L1	CO5	PO2
<b>II : PART - B</b>		<b>90</b>			
<b>UNIT - I</b>		<b>18</b>			
1 a.	Describe the internal structure of earth based on seismological evidences with a neat sketch.	9	L1	CO3	PO2
b.	Add a brief note on the application of geology in the field of civil engineering.	9	L1	CO1	PO2
c.	Mention the causes of landslides and its preventive measures.	9	L2	CO3	PO3
<b>UNIT - II</b>		<b>18</b>			
2 a.	Define Mineral. Add a note on habit and streak.	9	L2	CO2	PO1
b.	Explain physical properties and engineering uses of quartz and calcite.	9	L3	CO2	PO1
c.	Explain the landslides. Add a note on Remedial measures to control.	9	L2	CO5	PO3
<b>UNIT - III</b>		<b>18</b>			
3 a.	Describe granite, sandstone and marble and their uses in building material.	9	L2	CO3	PO2
b.	What are sedimentary rocks? Explain its classification based on grain size of sediments with examples.	9	L2	CO3	PO2
c.	Explain broad classification of igneous rocks giving examples relevant to construction materials.	9	L3	CO3	PO2
<b>UNIT - IV</b>		<b>18</b>			
4 a.	Explain the formation of folds and joints and add a note on their importance in Civil engineering.	9	L2	CO3	PO2
b.	With a neat sketch, explain fault and its types.	9	L2	CO3	PO2

c. Write a short note on:

i) Geological map

9 L2 CO4 PO2

ii) Clino meters

**UNIT - V****18**

5 a. Describe the electrical resistivity method for investigation of ground water.

9 L3 CO4 PO2

b. Explain geological consideration of dam on inclined and faulted rocks.

9 L2 CO4 PO2

c. What is remote sensing? Write its principle and list important applications in civil engineering.

9 L2 CO4 PO2

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