

University of Mumbai

Examinations Commencing from May 2022

Program: BE (Civil)(Rev-2019'C'Scheme)(Choice Based)

Curriculum Scheme: Rev-2019

Examination: SE Semester III

Course Code: _CEC303_ and Course Name: _Engineering Geology

Time: 2.5 hours

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Continental crust is lighter than oceanic crust because it is mainly composed of...
Option A:	Silicon and aluminum
Option B:	Silicon and magnesium
Option C:	Iron and magnesium
Option D:	Silicon and iron
2.	In spheroidal weathering, the upper portion of the rock formation converted into curved shape because of the action of...
Option A:	Expansion, contraction and humid climate
Option B:	Temperature and cooling effect
Option C:	Warm and humid climate
Option D:	Temperature, Pressure and chemically active fluids
3.	The record of seismic waves is called.....
Option A:	Seismogram
Option B:	seismograph
Option C:	Travel time curve
Option D:	Velocity depth curve
4.	In dolerite, the grains are medium in size due to...
Option A:	Slow rate of cooling of magma
Option B:	Medium rate of cooling of magma
Option C:	Very high rate of cooling of magma
Option D:	High rate of cooling of magma
5.	Which landform shows large depression ?
Option A:	Blow outs
Option B:	caldera
Option C:	crater
Option D:	Pot holes
6.	Older series is made up of folded, faulted or inclined beds and younger series is made up of horizontal beds is known as -----
Option A:	Disconformity
Option B:	Nonconformity
Option C:	Regional unconformity
Option D:	Angular unconformity

7.	The erosional landforms of river are...
Option A:	Alluvial cone and alluvial fan
Option B:	Crag and tail
Option C:	Delta and natural levees
Option D:	Waterfall and pot holes
8.	The ropy lava and blocky lava are formed due to.....
Option A:	Cooling of magma
Option B:	Crystallization of magma
Option C:	Consolidation of magma
Option D:	Mobility of magma
9.	The rock formation which is neither porous nor permeable.
Option A:	Sandstone
Option B:	Breccia
Option C:	Clay
Option D:	Granite
10.is the law of stratigraphy.
Option A:	Order of superposition
Option B:	Geological time scale
Option C:	Archean era
Option D:	Deccan trap

Q2. (20 Marks Each)	
A	Solve any Two (5 marks each)
i.	How is mushroom rock formed? Explain with diagram.
ii.	Explain any three structures of sedimentary rock with diagrams.
iii.	Distinguish between porphyritic texture and poikilitic texture with diagrams.
B	Solve any One (10 marks each)
i.	Describe terminology of fold with diagram. Explain any four types of fold.
ii.	Explain any two landforms of wind, river and glacier each with diagrams.
Q3. (20 Marks Each)	
A	Solve any Two (5 marks each)
i.	What are confined and unconfined aquifers? What is perched water table?
ii.	What is Electrical resistivity method? State its significance.
iii.	A coal seam is exposed on horizontal ground, it dips 30 degree westward, its width of outcrop is 360 m. Determine its true thickness and vertical thickness. Scale : 1cm = 50m. Draw the bed by using given scale.)

B	Solve any One (10 marks each)																																																
i.	What are the different types of landslide? Explain precautionary measures for landslide.																																																
ii.	Describe favorable and unfavorable geological structures for construction of dam.																																																
Q4. (20 Marks Each)																																																	
A	Solve any Two (5 marks each)																																																
i.	Distinguish between Physical and Chemical weathering.																																																
ii.	Explain Horst and Graben.																																																
iii.	State the suitable geological structures while constructing the tunnel.																																																
B	Solve any One (10 marks each)																																																
i.	What is unconformity ? how is it formed ? Describe various types of unconformity ?																																																
ii.	Calculate the value of Core recovery and RQD from the following data. Mention your opinion. (Run is 2.6m)																																																
	<table border="1"> <thead> <tr> <th>Sample No .</th> <th>Length of core sample (in cm)</th> <th>Nature of joints in lower end of sample</th> </tr> </thead> <tbody> <tr><td>1</td><td>30</td><td>N</td></tr> <tr><td>2</td><td>15</td><td>N</td></tr> <tr><td>3</td><td>17</td><td>N</td></tr> <tr><td>4</td><td>33</td><td>N</td></tr> <tr><td>5</td><td>2</td><td>M</td></tr> <tr><td>6</td><td>4</td><td>M</td></tr> <tr><td>7</td><td>3</td><td>N</td></tr> <tr><td>8</td><td>9</td><td>N</td></tr> <tr><td>9</td><td>16</td><td>N</td></tr> <tr><td>10</td><td>67</td><td>N</td></tr> <tr><td>11</td><td>6</td><td>N</td></tr> <tr><td>12</td><td>7</td><td>M</td></tr> <tr><td>13</td><td>6</td><td>N</td></tr> <tr><td>14</td><td>20</td><td>N</td></tr> <tr><td>15</td><td>13</td><td>N</td></tr> </tbody> </table>	Sample No .	Length of core sample (in cm)	Nature of joints in lower end of sample	1	30	N	2	15	N	3	17	N	4	33	N	5	2	M	6	4	M	7	3	N	8	9	N	9	16	N	10	67	N	11	6	N	12	7	M	13	6	N	14	20	N	15	13	N
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