

University of Mumbai

Program: CIVIL ENGINEERING

Curriculum Scheme: Rev2019

Examination: SE Semester III

Course Code: CEC303 and Course Name: Engg. Geology

Time: 2 hour 30 minutes

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	The discontinuity between mantle and core is known as-----
Option A:	Gutenberg discontinuity
Option B:	Mohorovicic discontinuity
Option C:	Core mantle discontinuity
Option D:	Lehman discontinuity
2.	The midoceanic ridges have been formed due to the movement of
Option A:	Convergent plates
Option B:	Divergent plates
Option C:	Transform plates
Option D:	Destructive plates
3.	Frost action is the effect of-----
Option A:	Physical weathering
Option B:	Chemical weathering
Option C:	Biological weathering
Option D:	River weathering
4.	A mineral is asubstance which has definite chemical composition, definite atomic structure and formed byprocesses of nature.
Option A:	Homogenous, organic
Option B:	Heterogenous,organic
Option C:	Homogenous ,inorganic
Option D:	Natural, organic
5.	In basalt, the grains are fine in size due to...
Option A:	Slow rate of cooling of magma
Option B:	Medium rate of cooling of magma
Option C:	Moderate rate of cooling of magma
Option D:	High rate of cooling of magma
6.	The secondary minerals like..... ,are filled in the openings of basalt is called.....
Option A:	Calcite,zeolite,amygdaloidal basalt
Option B:	Quartz,calcite,vesicular basalt

Option C:	Quartz,zeolite,compact basalt
Option D:	Serpentine,calcite,hydrothermally altered basalt
7.	Deposition of sediments into layers or beds is called.....The planes dividing different beds are called
Option A:	The lamination, axial planes
Option B:	The lineation, strike lines
Option C:	The stratification, bedding planes
Option D:	The foliation, cleavages
8.	Contact metamorphism comes under...
Option A:	Thermal metamorphism
Option B:	Cataclastic metamorphism
Option C:	Regional metamorphism
Option D:	Plutonic metamorphism
9.	The parallel arrangement of platy or flaky minerals are found in ...
Option A:	Marblem
Option B:	Gneiss
Option C:	Schist
Option D:	Quartzite
10.	By metamorphism, limestone converts into...
Option A:	Sandstone
Option B:	Marble
Option C:	Granite
Option D:	Conglomerate

Q2. (20 Marks Each)	
A	Solve any Two (5 marks each)
i.	Explain interior of the earth with labeled diagram.
ii.	Explain any two structures of sedimentary rock with diagrams.
iii.	A vertical borehole sunk from the upper bedding plane of a shale bed reaches the lower bedding plane at a depth of 150 m.It dips 35° westwards. Determine its true thickness and width of the outcrop on the level ground. (Scale : 1cm = 50m. Draw the bed by using given scale.)
B	Solve any One (10 marks each)
i.	Describe terminology of fold with diagram. Explain any two types of fold with diagram.
ii.	Describe the classification of igneous rock based on silica percent. Explain: Angular unconformity and Disconformity.

Q3. (20 Marks Each)																																																				
A	Solve any Two (5 marks each)																																																			
i.	What are the zones of groundwater ? How is perched water table formed?																																																			
ii.	What are the precautionary measures for landslide ?																																																			
iii.	What are volcanic products ?																																																			
	.																																																			
B	Solve any One (10 marks each)																																																			
i.	Explain suitable and unsuitable geological structures for the construction of dam.																																																			
ii.	What is Run, core recovery and RQD? Calculate the value of Core Recovery and RQD from the following data. Mention your opinion.																																																			
	<table border="1"> <tr> <td colspan="3">Total Run =1.5 m.</td> </tr> <tr> <td>Sr.No.</td> <td>Length of core sample (in cm)</td> <td>Nature of joints at lower end of core sample</td> </tr> <tr> <td>1</td> <td>10</td> <td>N</td> </tr> <tr> <td>2</td> <td>6</td> <td>N</td> </tr> <tr> <td>3</td> <td>12</td> <td>N</td> </tr> <tr> <td>4</td> <td>13</td> <td>N</td> </tr> <tr> <td>5</td> <td>6</td> <td>N</td> </tr> <tr> <td>6</td> <td>2</td> <td>M</td> </tr> <tr> <td>7</td> <td>5</td> <td>M</td> </tr> <tr> <td>8</td> <td>5</td> <td>M</td> </tr> <tr> <td>9</td> <td>3</td> <td>N</td> </tr> <tr> <td>10</td> <td>17</td> <td>M</td> </tr> <tr> <td>11</td> <td>16</td> <td>N</td> </tr> <tr> <td>12</td> <td>3</td> <td>M</td> </tr> <tr> <td>13</td> <td>2</td> <td>M</td> </tr> <tr> <td>14</td> <td>4</td> <td>N</td> </tr> <tr> <td>15</td> <td>40</td> <td>N</td> </tr> </table>	Total Run =1.5 m.			Sr.No.	Length of core sample (in cm)	Nature of joints at lower end of core sample	1	10	N	2	6	N	3	12	N	4	13	N	5	6	N	6	2	M	7	5	M	8	5	M	9	3	N	10	17	M	11	16	N	12	3	M	13	2	M	14	4	N	15	40	N
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Q4. (10 Marks Each)	Solve any Two																																																			
A	With the help of suitable diagram describe geological work of wind.																																																			
B	Draw different parts of fault. Give classification of fault.																																																			
C	Write causes of earthquake. Discuss earthquake zones of India																																																			