Total number of printed pages: **Programme(UG)/Semester 3rd/UCE 303**

2022

ENGINEERING GEOLOGY

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

Answer question no.1 and any four from the rest.

1.	a)	Differentiate between the following.		5x2=10
		i)	Tetragonal and hexagonal system.	
		ii)	Crystallization and sublimation.	
		iii)	Acidic rocks and basic rocks.	
		iv)	Focus and epicenter.	
		v)	Open fold and closed fold.	
	b)	(b) Fill in the blanks.		5x2=10
		i)	Stones obtained from synclinal formations are _____ than those obtained from anticlinal formations as the latter are usually _____.	
		ii)	A fold in which the axial plane is absolutely _____ and the limbs are also more or less _____ is called a recumbent fold.	
		iii)	The block above the fault plane is called the _____ wall and the block below the fault plane _____ wall.	
		iv)	_____ is the vertical displacement between the hanging wall and the footwall whereas _____ is the horizontal displacement between the hanging wall and the footwall.	
		v)	Sedimentary rocks of _____origin has coarse grains, whereas a sedimentary rock of _____ origin has fine grains.	
2.	a)	How geology plays an important role in Civil Engineering.		5
	b)	Define paleontology.		2
	c)	What are the factors on which the process of preservation of fossils depends upon?		4
	d)	Discuss the following processes disintegration, decomposition and denudation.		9

3.	a)	Define mineralogy.	2
	b)	What are the three factors on which Lusture depends upon? Also describe the various terms used to show the amount of Lusture.	3+7=10
	c)	Define specific gravity and also describe the factors on which specific gravity of a mineral depends upon.	8
4.	a)	How transformation of the deposited material, into thick and massive sedimentary rocks take place? Also, discuss the processes.	6
	b)	How intrusive and extrusive rocks are formed?	6
	c)	Describe the three important structures of igneous rocks.	6
	d)	What is metamorphism?	2
5.	a)	How folds are formed?	2
	b)	Describe all the parts of fold.	8
	c)	Discuss the various types of faults.	10
6.	a)	What are road metals?	2
	b)	What mineralogical composition of the rock should be considered prior to the selection of any rock as construction materials?	4
	c)	What precautions can be adopted to make the building sufficiently earthquake proof?	6
	d)	How the various structural features effect the selection of a dam site?	8
7.	a)	Illustrate elastic rebound theory with a suitable diagram.	5
	b)	What is Seismograph? With a suitable diagram show the amplitude of the graph obtained.	4
	c)	Describe the nature of occurrence of flowage and sliding.	5
	d)	Describe the factors on which Damage caused by landslide activities to a structure depends upon.	6