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Reg. No.:					

# **Question Paper Code: 53012**

## B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

#### Third Semester

# Civil Engineering

## 15UCE302 - ENGINEERING GEOLOGY AND CONSTRUCTION MATERIALS

		(Regulation	on 2015)				
	Duration: Three hours			Maximum: 100 Marks			
		Answer ALI	Questions				
		PART A - (10 x	1 = 10 Marks)				
1.	Granite is an example of	of					
	<ul><li>(a) aqueous rock</li><li>(c) metamorphic ro</li></ul>	ock	<ul><li>(b) sedimentary rock</li><li>(d) igneous rock</li></ul>				
2.	Which mineral group abundantly found in earth's crust?						
	<ul><li>(a) Mica group</li><li>(c) Oxide group</li></ul>		<ul><li>(b) Felspar group</li><li>(d) Silicate group</li></ul>				
3.	Gentle folds have fold angle between						
	(a) $10^{\circ}$ to $90^{\circ}$	(b) 90° to 170°	(c) 170° to 180°	(d) 200° to 250°			
4.	Fractures along which there has been no relative displacement is called						
	(a) Fault	(b) Joints	(c) Folds	(d) Intrusions			
5.	A first class brick should have a minimum crushing strength of						
	(a) $7 \text{ MN/m}^2$	(b) $10.5 \text{ MN/m}^2$	(c) $12.5 \text{ MN/m}^2$	(d) $14 \text{ MN/m}^2$			
6.	The good clay for maki	ng bricks is					
	(a) unweathered cla	ny	(b) weathered clay				
	(c) silted soil		(d) black cotton soil				

Or  (b) Describe the different types of rocks. Give the classification, texture and structur of sedimentary rocks.  (1)  17. (a) Classify folds and faults in rocks and explain how they influence the design of dark (1)  Or  (b) What are the geological factors to be considered in the road and bridge construction.	7.	The	e rate of hydration an	d hydrolysis of ceme	ent depends upon its			
(a) air permeability method (b) Vicat's apparatus (c) Le-chatelier method (d) all of these  9. The purpose of seasoning of timber is to (a) change the directions of grains (b) remove voids (c) reduce moisture content (d) all of these  10. Stainless steel is so called because of its (a) high strength (b) high corrosion resistance (c) high ductility (d) brittleness  PART - B (5 x 2 = 10 Marks)  11. What are the physical properties of minerals? 12. What is fold? Name the parts of fold. 13. What are the characteristics of good building stone?  14. What is meant by hydration? 15. Enumerate various market forms of steel.  PART - C (5 x 16 = 80 Marks)  16. (a) Write a critical essay on weathering of igneous rock and its significance engineering construction.  Or  (b) Describe the different types of rocks. Give the classification, texture and structure of sedimentary rocks.  (17. (a) Classify folds and faults in rocks and explain how they influence the design of dar (1)  Or			(a) soundness	(b) fineness	(c) setting time	(d) tensile strength		
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				Or				
		(b)		gical factors to be con	nsidered in the road a	and bridge construction? (16)		

18.	(a)	(i) Explain various tests on bricks to find its suitability in construction.	(8)
		(ii) Briefly explain classification of bricks.	(8)
		Or	
	(b)	(i) Explain criteria for selection of stones.	(10)
		(ii) List out the advantages of hollow concrete block.	(6)
19.	(a)	Briefly discuss the properties of fresh and hardened concrete.	(16)
		Or	
	(b)	Write short note on:	
		(i) high strength concrete	(4)
		(ii) high performance concrete	(4)
		(iii) self compaction concrete	(8)
20.	(a)	(i) Describe the preservatives which are commonly used in the preservation of timber.	process of (12)
		(ii) List out the different types of preventives for timber.	(4)
		Or	
	(b)	(i) Describe the various processes adopted to manufacture steel.	(10)
		(ii) Mention the uses of different types of steel.	(6)