SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK

Subject with Code : ENGINEERING MATERIALS (20CE0101) **Regulation:**R20

Course & Branch: B.TECH-CIVILENGINEERING **Year &Sem:** I-B.TECH &I-Sem

UNIT-I

1	Classify the types of rocks. Explain each type of rocks with examples.	[L2][CO1]	12M
2	What is meant by rock cycle? How does it represent the sequence of formation of the three important types of rocks?	[L1][CO1]	12M
3	Write short notes on,		
	I. Write about tools used for quarrying the stones	[L1][CO1]	04M
	II. Methods of quarrying of stones.	[L1][CO1]	04M
	III. Precautions in blasting	[L1][CO1]	04M
4	i) Write the various uses of stones.	[L2][CO1]	06M
	ii) List the characteristics of good building stones.	[L2][CO1]	06M
5	Describe how bricks are classified	[L2][CO2]	12M
6	i) What are the characteristics of good bricks?	[L2][CO2]	06M
	ii) What are the constituents of good brick earth? Explain shortly.	[L2][CO2]	06M
7	Explain the process involved in the manufacturing of bricks.	[L3][CO2]	12M
8	List the types of defects in clay bricks. Explain briefly on each defect.	[L3][CO2]	12M
9	What are the substances which harm the qualities of good bricks in their manufacturing? Explain any five substances.	[L1][CO2]	12M
10	Write short notes on:		
	i) Types of tiles and their uses.	[L2][CO2]	06M
	ii) Mention the manufacturing methods of tiles.	[L2][CO2]	03M
	ii) Characteristics of good tiles.	[L2][CO2]	03M

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UNIT-II

1.	i) List the properties of cement. Explain any five properties. ii) What are the ingredients of Portland cement? State the functions and its limits of each ingredient.	[L1][CO3] [L1][CO3]	06M 06M
2.	i) Explain with flow diagrams the dry and wet process of manufacture of cement. ii) What tests would you specify to ensure if the cement supplied at the site is of good quality?	[L2][CO3] [L4][CO3]	12 M 12M
3.	i) What are the initial and final setting times of cement? What is their importance? ii) What precautions should be taken while storing cement?	[L4][CO3] [L5][CO3]	06M 06M
4.	What is mortar? Briefly describe the various types of mortars.	[L1][CO3]	12M
5.	i) List the characteristics of good mortar. ii) State the functions of ingredients in mortar.	[L2][CO3] [L2][CO3]	06M 06M
6.	Explain briefly the method of preparing lime mortar. Also write about factors influencing on selection mortar type	[L3][CO3]	12M
7.	i) Briefly write about classification of concrete. ii) Shortly explain the steps involved in production of concrete.	[L2][CO3] [L3][CO3]	06M 06M
8.	i) Define water-cement ratio. How does it influence concrete strength? ii) Explain the factors influencing the strength of concrete	[L5][CO3] [L2][CO3]	06M 06M
9.	Write short notes on: i) Compression Strength of Concrete. ii) Tensile Strength of Concrete.	[L4][CO3] [L4][CO3]	06M 06M
10.	What is meant by workability of concrete? How is it tested in field and in laboratory?	[L4][CO3]	12M

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UNIT-III

1	(i) Explain the classification of trees	[L2][CO4]	06M
	(ii) Distinguish between softwood and hard wood.	[L4][CO4]	06M
2	i) Differentiate between Exogenous and Endogenous trees	[L2][CO4]	06M
	ii) List the properties of wood and shortly write about any three properties.	[L1][CO4]	06M
3	List the various forms of wood products and there characteristics.	[L2][CO4]	12M
4	i) Classify the timber.	[L2][CO4]	04M
	ii) With Neat sketches explain the structure of timber.	[L2][CO4]	04M
	iii) What is seasoning of timbers?Mention its significance.	[L2][CO4]	04M
5	i) State the characteristics of good timber.	[L2][CO4]	06M
	ii) What are dry and wet rots? How are they caused and prevented?	[L2][CO4]	06M
6	i)Discuss the reasons for the causes of defects in painting work.	[L3][CO4]	06M
	ii) Describe various defects in timber.	[L3][CO4]	06M
7	Explain the damage caused by insects to wood.	[L3][CO4]	12M
8	i) What are the various ingredients of paints? State the functions of each of them.	[L1][CO4]	06M
	ii) Explain the procedure to prepare the oil paint.	[L2][CO4]	06M
9	Describe in details the types of defects in paint works.	[L2][CO4]	12M
10	i) What are the differences between paints, varnishes and distemper?	[L3][CO4]	04M
	ii)Classify different types of varnishes and briefly describe them.	[L2][CO4]	04M
	iii) Write about white wash and color wash.	[L1][CO4]	04M

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UNIT-IV

1	What is iron? Describe how cast iron is manufactured from iron ore.	[L3][CO5]	12 M
2	Specify some important uses of cast iron, wrought iron and mild steel.	[L1 [CO5]	12 M
3	Describe in detail about the reinforcing steel used in reinforced cement concrete.	[L1][CO5]	12 M
4	Describe in detail testing of steel sections.	[L3][CO5]	12 M
5	Write a note on rolled steel sections.	[L1][CO5]	12 M
6	Explain any five rolled steel sections with neat sketches.	[L2][CO5]	12 M
7	Explain briefly about (i) Aluminum.	[L2][CO5]	06 M
	(ii) Copper	[L2][CO5]	06 M
8	What are smart materials? Explain their applications in civil engineering field?	[L3][CO5]	12 M
9	Write short notes on i) Piezoelectric materials (ii) Magneto Rheos static fluid.	[L2][CO5]	12 M
10	Write short notes on Electro-rheostatic and magneto rheostatic fluid.	[L2][CO5]	12 M

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UNIT-V

1	Define bitumen, asphalt and tar and how do they differ.	[L1][CO6]	12 M
2	What are the various types of bitumen and what are their uses.	[L2][CO6]	12 M
3	Explain the procedure involved in ductility test?	[L2][CO6]	12 M
4	Describe the penetration test on bitumen?	[L2][CO6]	12 M
5	Explain the following tests for bitumen (i) Flash point and fire point test	[L4][CO6]	06 M
	(ii) Softening point	[L4][CO6]	06 M
6	What is meant by aggregate? Briefly describe their classification	[L2][CO6]	12 M
7	i)Discuss the characteristics of good aggregates ii) Write short notes on M sand.	[L1][CO6] [L1][CO6]	06 M 06M
8	Describe the specific gravity test on coarse aggregates.	[L4][CO6]	12 M
9	With significance briefly explain about crushing test and impact test on coarse aggregate.	[L4][CO6]	12 M
10	Explain mechanical properties of coarse aggregates.	[L2][CO6]	12 M

Prepared by
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