

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2021

Course: Material Testing and Evaluation
Program: B Tech Civil Engineering
Course Code: CIVL 2019

Semester: III
Time: 03 hrs.
Max. Marks: 100

Instructions: Answer all the question of a section at the same place.

SECTION A (Q5x4=20) Answer all questions

S. No.		Marks	CO
Q 1	Differentiate between fine and coarse aggregate according to the size and applicability.	4	CO1
Q 2	Discuss the importance of IS codes in testing of materials.	4	CO2
Q 3	Define consistency of Portland cement.	4	CO3
Q 4	State the advantages of using PVC over any other material as a good building material in water works.	4	CO1
Q 5	Define seasoning of timber and its need.	4	CO1

SECTION B (Q4x10=40) Answer all questions

Q 6	Summarize and explain the manufacturing process of brick with neat sketches.	10	CO1
Q 7	Describe the mechanical properties of ferrous metals.	10	CO2
Q 8	“The hardness and toughness of coarse aggregate plays a vital role in its use” – Justify the statement with necessary illustrations.	10	CO3
Q 9	Explain the properties of any three different types of concrete other than plain and reinforced cement concrete.	10	CO1

SECTION-C (Q2x20=40) Answer all questions

Q 10	IS 2386 standardizes a particular material testing procedure that is commonly used in building construction – define the material and explain the standards. (OR) Explain the properties of non-ferrous metals generally used in their extensive applications. Also explain the need of their alloys.	20	CO2
Q 11	Describe the testing procedure for tensile strength testing of steel, and explain how the stress strain curve varies for different types and categories of steel.	20	CO3