Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, December 2020

Course: Material Testing and Evaluation — **Semester: III**
Program: B Tech Civil Engineering — **Time 03 hrs.**
Course Code: CIVL 2012 — **Max. Marks: 100**

SECTION A

S. No.		Marks	CO
Q 1	Plaster is a building material similar to _____, but will contain finer _____ than in mortar, in order to obtain better ____. Plaster is used as a protective and/or decorative coating on _____ and _____ and for moulding and casting decorative elements.	5	CO1
Q 2	Name any five properties of building materials.	5	CO2
Q 3	a) Hardness is a material characteristic which can be defined as resistance to deformation (_____, _____, compression etc.) b) The _____ absorbed by the specimen is measured by the loss in _____ energy of moving _____ (Impact test).	5	CO3
Q 4	Strength is the ability of a material to resist stresses caused by the external forces (such as _____, _____, _____, _____, and _____), without failure or fracture.	5	CO1
Q 5	Nine grades (MM _____ to MM _____), are based on compressive strength from _____ - _____ N/mm2 (IS _____) (MM – Masonry Mortar)	5	CO2
Q 6	a) The tensile test is widely used to provide basic design information on the _____ of materials and as acceptance test for _____ of materials. b) The limiting load beyond which the material no longer behaves elastically is called _____. c) Measure of stiffness of material is called _____. d) Stress required for producing a small specified permanent deformation is called _____	5	CO3
	SECTION B		
Q 7	Explain the characteristics of good mortar.	10	CO1
Q 8	Describe the mechanical properties of Mild steel and HYSD.	10	CO2
Q 9	Discuss on the testing of bitumen to confirm it to be a better road binding material.	10	CO3
Q 10	Discuss the properties of asbestos.	10	CO2
Q 11	Differentiate between Izod and Charpy tests on mild steel.	10	CO3
	SECTION-C		
Q 12	Describe the manufacturing process of steel and heat treatment of steel with the help of flow chart. (OR)	20	CO1

	Describe the testing of concrete to ascertain its quality both in fresh and hardened state. Also highlight its specifications.		