Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

III SEMESTER B.TECH. (CIVIL ENGINEERING)

END SEMESTER EXAMINATIONS, NOV/DEC 2017

SUBJECT: COASTAL ENGINEERING/ CIE 4020

REVISED CREDIT SYSTEM

(/ 11/ 2017)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.
- Missing data may be suitably assumed.

1A.	Explain any four methods of measurement of waves.	**4M**
1B.	Determine the horizontal velocity, acceleration and specific energy of a progressive wave at (x=12.2m, t=6sec) for a depth of water 30.6m, wave height of 6m and 9sec time period.	**6M**
2A.	Calculate the total maximum moment due inertia at a water depth 27m from the sea bed on a vertical pile having diameter of 2m at a water depth of 33.5 m, wave height of 11.5 m and wave length of 115 m. Take C_D=1, C_I =2 and ρ = 1026 kg/m^3.	**6M**
2B.	What is Sediment transport? Explain Sediment movement after wave breaking.	**4M**
3A.	List the different type of Wave deformation and explain any two of them with neat sketch	**4M**
3B.	With the neat sketch explain typical beach profile	**6M**
4A	What is coastal Zone management? And what are its Importance in India?	**5M**
4B	What are berthing structures? Write all the types of loads on berthing structures	**5M**
5A	Design a seawall with rip rap revetment for a location pertaining following conditions Design wave height = 3.5 m Storm surge level = 2 m (from 0-0 reference as still water) Maximum tidal level = 1 m (from 0-0 reference as still water) Water depth at the toe of the structure = -3.5 m (from 0-0 reference as still water) Wave runup = 3 m Seaward slope = 1: 1.5 Type of material = quarried stone Diameter of seabed material = 1.5 mm Ns^3 from graph = 100	**10**