

M. Tech.-III (Civil-Hydraulic Engineering) (CBCS – 2015 Course) :

SUMMER - 2019

SUBJECT: ELECTIVE – I a) COASTAL ENGINEERING

Day: Friday

Date: 17/05/2019

S-2019-3426

Time: 11.00 AM TO 02.00 PM

Max Marks. 60

N.B.

- 1) All questions are **COMPULSORY**
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Answer to both the sections should be written in **SAME** Answer book.
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SECTION - I

Q.1 Write short notes on any **THREE** of the following **(10)**

- a) Standard wave spectra
- b) Types of wave breakers
- c) Global phenomena of tide generation
- d) Wave shoaling phenomena in the coastal zone

OR

Explain the natural and man made causes of coastal erosion and measures to be taken.

Q.2 a) Explain when refraction and diffraction takes place in the coastal zone? **(10)**

- b) What is rip current? Explain with neat sketch the effect of rip current on offshore sediment transport.

OR

What is stable beach profile? Sketch the winter and summer profile due to normal/ extreme wave conditions.

Q.3 Compare east and west coast of India keeping in view the effect of various processes and parameters for the design of new port. **(10)**

OR

Explain the various of offshore structures with reference to depth, function and parameters for hydraulic design.

SECTION - II

Q.4 Write short notes on any **THREE** of the following **(10)**

- a) Natural and artificial harbor
- b) Ro – Ro and Lo – Lo port facilities
- c) Location of container berth in the port
- d) Concept of mother port

OR

What is the short and long term roll of cost analysis during phase wise master plan development?

Q.5 What are types of dredgers based on various functions, capacity and limitation of depth? **(10)**

OR

- a) What is the functions of dry dock, turning circle, dock arm in the port area.
- b) What is advantages of Hudson's formula for design of Rubble mound breakwater?

Q.6 Explain how radio active tracer studies are useful for selection of dumping ground for dredged material. **(10)**

OR

What are the design principles for submarine outfall for the disposal of industrial waste? Draw suitable sketch