

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

WINTER - 2018

SUBJECT: SELF STUDY PAPER-II OFFSHORE STRUCTURES

Day: Saturday
Date: 24/11/2018

W-2018-3174

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 sections should be written in **SEPARATE** answer book.
- 4) Assume suitable data if **NECESSARY**.

SECTION – I

- Q.1** Write short notes on: [10]
- i) Classification of offshore structures
 - ii) Design of floating structure

OR

What do you understand by drag and lift forces under the action of waves?

- Q.2** Explain the difference between onshore and offshore structure considering the response of incoming waves. [10]

OR

How will you design the submarine pipeline resting on the sea bed, sketch the various forces applicable on the c/s of pipeline.

- Q.3** Brief the history of development of offshore platforms with salient landmark. [10]

OR

Explain the mode of transport of oil from deep draft oil tanker at SBM upto the refinery at port with reference to limitation of depth.

SECTION – II

- Q.4** Write short notes on: [10]
- i) Safety measures of offshore structures.
 - ii) Role of wave spectra for design of offshore platform.

OR

What are the adverse effect of pollution due to oil leakage on the shore based activities and aquatic life.

- Q.5** Describe the methods to overcome the effect of wave forces on the design of unbraced oil platform. [10]

OR

Explain the need for oil platform exploration based on demand of crude oil for next 3 decades in India.

- Q.6** Explain the importance of factors C_D and C_M in Morrison's equation. [10]

OR

Suggest the various alternatives for planning of storage and transport of crude oil to meet the future demand

* * * * *