

Total No. of Questions : 10]

SEAT No. :

P2975

[5154]- 527

[Total No. of Pages : 2

B.E. (Civil)

SUB SEA ENGINEERING

(2012 Pattern) (Semester - II) (Elective - IV) (Open Elective)

Time :2½ Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10.*
- 2) *Neat sketches must be drawn whenever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Use of non-programmable calculator.*
- 5) *Assume suitable data, if necessary.*

Q1) a) Explain Metaocean condition. **[4]**

b) Explain national over view of oil and gas industry. **[6]**

OR

Q2) a) Draw neat sketch showing all important components of engineering at subsea establishment for oil exploration. **[4]**

b) Explain the over view of oil and gas industry with its international scenario. **[6]**

Q3) a) Explain challenges faced by Civil Engineer in sub sea oil exploration project. **[6]**

b) What is shallow and deep water oil exploration? **[5]**

OR

Q4) a) Explain elements of Risk assessment for subsea production system. **[6]**

b) State how field economics dominates the oil exploration at any subsea site. **[5]**

P.T.O.

- Q5) a)** Explain flow line, umbilical, riser, mooring. [8]
b) Explain suitable foundation systems for subsea installations. [7]

OR

- Q6) a)** Explain the step by step design of subsea pipe line system. [7]
b) Explain intervention methods AUV's, ROV's, and Divers. [8]

- Q7) a)** Explain the effect of acid gases on corrosion of subsea pipe lines. [8]
b) Explain civil engineering risks at subsea oil field development. [9]

OR

- Q8) a)** Explain types of corrosion in subsea oil field. [9]
b) Explain load considerations for subsea foundation design. [8]

- Q9) a)** Sketch typical Christmas tree, Enlist typical design loads under consideration. [9]
b) Explain phenomenon of buckling and collapse of Pipe under deep sea. [8]

OR

- Q10) a)** Explain stress analysis criteria for Pipe line design under design loads. [9]
b) How the geotechnical parameters affect the design of Pipe line at sub sea level. [8]

