

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER –IV • EXAMINATION – SUMMER • 2014****Subject code: 744301****Date: 04-06-2014****Subject Name: Offshore structures****Time: 02:30 pm - 05:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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| Q.1 | (a) Draw neat sketch of wave with all symbols. | 04 |
| | (b) Enlist wave theories and explain any one in detail. | 10 |
| Q.2 | (a) Enlist types of offshore structure. | 07 |
| | (b) Give factors affecting material selection for offshore structure. | 07 |
| | OR | |
| | (b) Give Morrison equation for effect of relative motion and effect of pile diameter. | 07 |
| Q.3 | What do you understand by Dynamic model of offshore structure? | 14 |
| | OR | |
| Q.3 | Explain about different types of piles used in the foundation of offshore structure. | 14 |
| Q.4 | How will you install jacket tower? Explain about floor systems adopted on jacket tower. | 14 |
| | OR | |
| Q.4 | Draw schematic diagrams for crossing pipelines. Enlist & explain installation methods of pipeline. | 14 |
| Q.5 | (a) Enlist the functions of mooring system. | 07 |
| | (b) Enlist and explain principle components of mooring system. | 07 |
| | OR | |
| Q.5 | (a) Write a short note on Analysis of Deck Structure. | 07 |
| | (b) Explain Point to be considered for design basis document for offshore pipeline. | 07 |