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## Sixth Semester B.E. Degree Examination, July/August 2022 Petroleum Transportation Engineering

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. What is the most common method of transporting petroleum? Explain. (10 Marks)
- b. What is the most environmentally safe way to transport oil? Explain. (10 Marks)

**OR**

- 2 a. How does oil transportation affect the environment? Explain. (10 Marks)
- b. Explain briefly on marine oil terminal. (10 Marks)

### Module-2

- 3 a. Explain briefly on origin of petroleum. (10 Marks)
- b. Write a note on composition of Crude petroleum. (10 Marks)

**OR**

- 4 a. Write a note on hazards associated with Cryogenics and safety precautions. (10 Marks)
- b. Explain low, intermediate and high temperature thermal insulation. (10 Marks)

### Module-3

- 5 a. Write a note on gas hydrates. (10 Marks)
- b. Write challenges for artificial lifting of gas hydrate reservoirs. (10 Marks)

**OR**

- 6 a. What is film inversion? When is it encountered in two phase flow? (10 Marks)
- b. Explain wax deposition and prediction in petroleum pipelines. (10 Marks)

### Module-4

- 7 a. What are the various pre construction activities in pipeline construction? Explain. (10 Marks)
- b. Write a note on electric welding processes and there types. (10 Marks)

**OR**

- 8 a. Explain effect of atmospheric air on welding. (10 Marks)
- b. What is Cathodic protection on piping? Explain. (10 Marks)

### Module-5

- 9 a. Explain liquefied natural gas. (08 Marks)
- b. Write a note on : (i) 2-stroke engine (ii) 4-stroke engine (12 Marks)

**OR**

- 10 a. Explain briefly the advantage of two shaft system of gas turbine compare to simple gas turbine system. (10 Marks)
- b. What are the different types of flow meters? Explain. (10 Marks)