

Roll No. 

--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech. (Petroleum Refinery Engineering) (2013 Batch EL-II)**  
**(Sem.-8)**

**NATURAL GAS TECHNOLOGY**

**Subject Code : BTPC-803(A)**

**Paper ID : [74322]**

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

**1) Answer briefly :**

- a) What is sweet gas and sour gas?
- b) What is kerogen?
- c) Define gas formation volume factor with unit.
- d) What are the various factors that promote hydrate formation?
- e) What are the principles of physical separation of gas and liquid in the separators?
- f) Why gas compressor is used in gas industry?
- g) What are the different desiccants used for dehydration?
- h) What is steady state and transient flow?
- i) Define accuracy and rangeability of flowmeter.
- j) Write the stages involved in LNG production and transport chain.

### SECTION-B

- 2) Write the physical and chemical composition of natural gas.
- 3) Explain phase diagram for dry and wet gas reservoir.
- 4) What is acid gas? How to remove acid gas by using amine? Explain about it with neat sketch.
- 5) Write a note on re-gasification and cold utilization of LNG.
- 6) Enumerate and briefly describe the important downstream utilization technology for natural gas petrochemical.

### SECTION-C

- 7) What is gas hydrates? What are the chemical compounds present in it? And explain about structure I, II and III with neat sketch.
- 8) Name the different types of compressor used in gas industry. Explain the working principle of Reciprocating Positive-Displacement Compressors.
- 9)
  - a) Why TEG is better in dehydration process? Name three types of adsorbents. Name three above ground storage vessel in LNG. Explain about it.
  - b) Compare chemical & physical solvent in acid gas treating.