

Name:
Enrolment No:



UNIVERSITY OF PETROLEUM & ENERGY STUDIES
Online End Semester Examination – May, 2021

Program/course: MBA (OG)
Subject: Natural Gas Business
Code: OGOG 7011
No. of page/s: 3

Semester : II
Max. Marks : 100
Duration : 3 Hrs.

All questions shall be strictly answered in chronological order.

SECTION A

Each question carries 5 marks
Attempt all questions

[30 Marks]

| | | | |
|-------------|---|-----------------|------------|
| Q.1 | Fill in the blanks: (i) 1 Barrel =-----Liters (ii) 1 BTU = -----Kcal (iii) 1 KWH =-----Kcal (iv) 1 M ³ LNG =-----M ³ of Natural Gas (iv) 1 mmscmd of gas = -----BCM/year | 1 x 5 =5 | CO1 |
| Q.2 | Describe the natural gas composition and the natural gas phase behavior envelope. | 5 | CO1 |
| Q.3 | Define “Volatile Oil” and its GOR range | 5 | CO1 |
| Q.4 | Write down the world Natural Gas Reserves (Year 2019) and the current Indian Gas production.scenerio. | 5 | CO1 |
| Q.5 | Name the 3 major gas fields of India and 2 major world gas discoveries in recent years. | 5 | CO1 |
| Q. 6 | Elaborate the <i>gas based economy</i> and how India is projected on this?. What are the policy measures being undertaken by Govt. of India in this direction?. | 5 | CO2 |

| <u>SECTION B</u> | | | |
|--|---|-------------------|------------|
| Each question carries 10 marks Attempt all questions | | [50 marks] | |
| Q.7 | a. Describe the conventional and strategic gas storage types. b. Describe the two categories of natural gas applications related to <i>gas components application</i> and <i>gas heat value related applications</i> . | 5 x 2=10 | CO2 |
| Q. 8 | a. Describe the different sources of natural gas production and their comparative markets. b. What are the major global gas trading hubs? | 5 x 2=10 | CO3 |
| Qs. 9 | a. Describe the CGD network in India and the regulatory issues related to CGD expansion. b. Describe the IGL vs. PNGRB litigation case and the new regulation was brought in to overcome this aspect in future. | 5 x 2=10 | CO3 |
| Q.10 | Describe the different gas transportation technologies, their economic uses and explain the full LNG value chain. | 10 | CO4 |
| Q.11 | a. Describe the different gas pricing structures. b. Describe the Rangarajan committee recommendations of 2014 on applicable Indian gas pricing formula. | 5 x 2=10 | CO4 |
| <u>SECTION C</u> | | | |
| The question carries 20 marks Attempt any one of the two case study | | [20 marks] | |
| Q.12 | Describe the threat of the cyber-attack <i>Ransomware</i> on oil & gas infrastructure. Narrate the story of recent cyberattack on <i>Colonial Pipeline</i> in east coast of USA and its economic impact of energy markets. How companies are building safeguards? OR Describe the main environmental issues with natural gas production. Describe the story with reasons " <i>The Covid-19 pandemic resulted in the largest-ever decline in global emissions</i> ". | 20 | CO5 |