

B TECH**(SEM-VIII) THEORY EXAMINATION 2018-19****HEALTH SAFETY AND ENVIRONMENT MANAGEMENT IN PETROLEUM INDUSTRY****Time: 3 Hours****Total Marks: 100**

- Note:** 1. Attempt all Sections. If require any missing data; then choose suitably.
2. Any special paper specific instruction.

SECTION A

1. Attempt *all* questions in brief. **2 x10 = 20**
- Define sour gas.
 - Explain job safety analysis.
 - What is sweetening process?
 - What are cheating agents? Write their applications.
 - Write down some effects on environment due to petroleum industry.
 - What are chemical and biological hazards?
 - Write the aim of occupational safety and health risks.
 - Draw a structure of oil and gas industry in India.
 - Write down some disadvantages of flex rig.

SECTION B

2. Attempt any *three* of the following: **10 x 3 = 30**
- Explain basic acidizing treatments. Show matrix acidizing injection rates below fracture pressure.
 - Describe the effects of acidizing on an underground well with the help of a graph.
 - Explain all the key steps which are involved in risk management process in the oil and gas industry.
 - Write detail notes on environmental impact of gas flaring. What measures are to be taken to reduce its effect on environment?
 - Enumerate the process of size assessment for remediation of contaminated site.

SECTION C

3. Attempt any *one* part of the following: **10 x 1= 10**
- What are effects of oil spills on aquatic life? Discuss factors affecting oil spill movements.
 - Write in detail on potential impact of production discharge on the environment in the onshore and offshore areas.
4. Attempt any *one* part of the following: **10 x 1= 10**
- Discuss the classification of pollutions by petroleum industry. What are the types of solid contaminants in waste water? Write the detail classification.
 - Make a descriptive note on impact of crude oil on marine animals, ecosystem, human health and growth of plant.

5. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) Describe the procedure for onshore/offshore well abandonment. Also explain the guidelines of plugging abandoned oil well.
 - (b) What are the different types of primary and secondary treatment available for waste water treatment? Write in detail about any two.
6. **Attempt any *one* part of the following:** **10 x 1= 10**
- (a) Explain the guidelines of safety and health management system.
 - (b) Discuss safety systems and risk management in offshore installations.
7. **Attempt any *one* part of the following:** **10 x 1= 10**
- (a) Make a descriptive note on the purpose of safety analysis (API-14C).
 - (b) Explain the oil fields (Regulation And Development) Act, 1948. What does NELP states about exploring and changing price of petroleum products?