



Sl.No. : 0007

**II Semester M.Sc. Degree Examination, May 2018  
(CBCS)**

**INDUSTRIAL CHEMISTRY**

**Industrial Safety, Environmental and Electrochemical Sciences  
(Open Elective)**

Time : 3 Hours

Max. Marks : 70

- Instructions: 1) Answer any five questions from Part - A and any five questions from Part - B.  
2) Figures to the right indicate marks.

**PART - A**

**Q1)** Answer any five sub - divisions. (5 × 2 = 10)

- What is the principles of the electro less plating? List two of its limitations.
- Define BOD and discuss its significance.
- Why are the fuel cells preferred in military applications?
- What is meant by Global warming? What are its consequences?
- What are ISO 9000 and ISO 14000 series? Explain them.
- Explain the terms quality assurance and quality acceptance with a suitable example.
- Write the chemical composition of a tear gas.
- Write any two safety rules involved in the transportation and storage of chemicals.

**PART - B**

- Q2)** a) Describe the fire safety rule to be followed in the chemical laboratory.  
b) What are the chemical warfare agents? Write their adverse effect on mankind.

(6+6)

- Q3)** a) Describe the control measures in case of toxic chemicals.  
b) Explain how ocean dumping of chemical weapons effect the aquatic life.  
c) What is OHSAS 18000? Discuss its significance in health and safety management system.  
(4+5+3)
- Q4)** a) What is Agmark? Describe its importance.  
b) Highlight the cost aspects of quality decision in general.  
c) Explain, why there is a need for having quality control unit in industries.  
(3+5+4)
- Q5)** a) Explain the basic concepts of sampling and reliability.  
b) Describe the laws related to quality control.  
(6+6)
- Q6)** a) Differentiate between the following.  
i) Primary and secondary air pollutants  
ii) BOD and COD  
b) Describe the construction and working of a dry cell.  
c) Explain how the hardness is measured for a given water sample.  
(6+3+3)
- Q7)** a) Explain the process of desalination by the reverse osmosis method.  
b) What is meant by acid rain? How is it formed?  
c) What are the characteristics of photochemical smog? Discuss the mechanism of smog - formation reactions.  
[3+3+6]
- Q8)** a) Describe the corrosion control by cathodic protection method. Write its merits.  
b) What is passivity? Explain the passivity concept with an Illustrative example.  
c) Differentiate between Galvanizing and Tinning.  
[4+4+4]
- Q9)** a) Mention classification of paints and their constitution.  
b) Write short note on  
i) Emulsion paints  
ii) Paint removers  
(6+6)

