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ICS 404

First Semester M.Sc. Degree Examination, May 2022
INDUSTRIAL CHEMISTRY
Environment, Health and Safety Measures

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

1. Answer **any five** sub-questions : **(5×2=10)**
- What is known as photochemical smog ? Give two examples.
 - Among CO, NO, N₂O and CH₄, which are primary and secondary pollutants ?
 - Give out the acceptable limit of pH and TDS for drinking water.
 - Differentiate temporary hardness from permanent hardness of water.
 - Which is best government standard for quality control and assurance ? Why ?
 - Which gas is used as tear gas ? Give out some harmful effects of it.
 - What is the difference between incineration and burning ?
 - What are five pieces of safety equipment ?

PART – B

Answer **any five** full questions : **(5×12=60)**

- Give the importance of ozone layer and discuss about ozone hole and CFC's.
 - How do you analyze air pollutants ? Explain briefly. **(6+6)**
- Briefly discuss on causes of green house effect.
 - How CFC's have been produced ? What are the major drawbacks of CFC's ? **(6+6)**

P.T.O.



4. a) What are the four stages of hydrologic cycle ? Explain with neat diagram.
b) How inorganic contaminants in water bodies affects the living organism ? **(6+6)**
5. a) How do you measure the turbidity, hardness and total solids in water ?
b) Give out the different forms of nitrogen in natural and polluted water.
Explain. **(6+6)**
6. a) What is the purpose of chemical warfare convection ? Give merits and demerits.
b) How do you optimize quality control ? Give importance of it.
c) Explain the laws related to quality control. **(4+4+4)**
7. a) Describe the some salient features of ISO 9000 and ISO 14000 series.
b) Explain the terminology involved in basic concepts of quality assurance.
c) What is Agmark ? How it differs from other standards ? **(4+4+4)**
8. a) Explain the term intellectual property and its rights. Give any two advantages.
b) Give importance and procedure for verification and segregation of laboratory waste.
c) Write a short note on experimental process and risk assessment. **(4+4+4)**
9. a) Describe the disposal of chemicals in the sanitary sewer system.
b) Explain briefly about incineration and transportation of hazardous chemicals.
c) What are the importance of safety and security of data management ? **(4+4+4)**
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