

SL No of QP : 13337
Name of the Course : B. Sc. (Hons)/B. Sc. (Prog.)
Semester : I/III/V/VII
Name of the paper : GE: Chemistry and Society
Unique Paper Code : 2174001004

Duration: 2 hours

Maximum Marks: 60

Instruction for the candidates

Write your Roll no. on the top immediately on the receipt of the question paper.

Question No. 1 is compulsory. Attempt *four* questions in all. All parts of a question should be attempted together.

All questions carry equal marks.

Q1. (i) Which of the following element has a zero valency?

- (a) Chlorine
- (b) Helium
- (c) Zinc
- (d) Hydrogen

(ii) How does the metallic character of elements change on moving down in the periodic table?

- (a) Increases
- (b) Decreases
- (c) Remains the same
- (d) First decreases then increases

(iii) Fill the missing term, Risk = Hazard x _____ .

- (a) Exposure
- (b) Toxic
- (c) Benign
- (d) Reactivity

(iv) _____ is a green solvent as well as a greenhouse gas.

- (a) Methanol
- (b) CFCs
- (c) Carbon monoxide
- (d) Carbon Dioxide

(v) Benzene, a _____ substance, is used as industrial solvent in the production of plastics and dyes.

- (a) Odorless
- (b) Non-flammable
- (c) Biodegradable
- (d) Carcinogenic (1x5)
- (vi) Name two common ingredients used in cosmetics and give their functions.
- (vii) How do soap and detergents differ in their mode of action.
- (viii) What is 'flame test'? What is the significance of flame test?
- (ix) Define metal toxicity with example.
- (x) What are polymers? Give two examples. (2x5)

- Q2. (i) What are the goals of green chemistry? Discuss the limitations in achieving these goals.
- (ii) What are the major pollutants of water? Discuss the ways to control water pollution?
- (iii) Give the synthesis of aspirin. Write its uses and side effects. (5, 5, 5)

- Q3. (i) What are polymers? Give two common examples.
- (ii) Discuss the environmental issues associated with plastics and polymers.
- (iii) Describe how air pollution occurs due to chemical sources. Explain with examples. (5, 5, 5)

- Q4. (i) What do you understand by 'solubility tests'? Explain giving two suitable examples.
- (ii) Write a short note on "zero-waste chemistry".
- (iii) What is a 'decomposition reaction'? Give a suitable example. (5, 5, 5)

- Q5. (i) What are the sources of air pollution? Discuss the ways to monitor air pollution.
- (ii) What is an endothermic reaction? Explain with the help of suitable examples.
- (iii) What are preservatives? Discuss their role in food preservation. (5, 5, 5)

- Q6. (i) Define the term biomagnification. How does it affect various organisms?
- (ii) What is adulteration? Which is the common adulterant mixed with honey? Give the test to detect its presence in the sample.
- (iii) What are polymers? Discuss various uses of polymers. (5, 5, 5)