5. (a) What are preservatives? Explain their role in food preservation with examples?

   (b) Discuss the preparation, properties and uses of aspirin?

   (c) Discuss the properties, synthesis and therapeutic uses of paracetamol in detail?

   (d) What is the role of micelle formation in the cleansing action of soap? (5,4,4,2)

6. (a) What are the methods of producing biodiesel and natural gas? What are the advantages of biodiesel?

   (b) Discuss the synthesis, properties and uses of penicillin.

   (c) What is the principle behind the flame test and how' is it used to identify elements?

   (d) Water molecule has bent structure whereas carbon dioxide molecule is linear explain? (5,4,4,2)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 3019 **I**

Unique Paper Code : 2174001004

Name of the Paper : GE, Chemistry and Society

Name of the Course : **B.Sc. Hons.**

Semester : I / III / V

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **four** questions in all.
3. **All** questions carry equal marks.

1. (a) Why the noble gases are placed in a separate group?

   (b) Lithium, sodium and potassium belongs to same group called alkali metals. Why?

(c) State three points of difference between Mendeleev's Periodic Table and Modern Periodic Table?

(d) What are the differences between atoms and molecules? Give few examples.

(e) What is the saponification? Explain with a reaction.

(f) Why are food preservatives used? Write few examples.

(g) Explain condensation polymer with suitable examples? (2,2,2,2,2,2,3)

2. (a) (i) What is an ionic bond? Explain the difference between an ionic and a covalent bond?

(ii) What are the factors influencing the formation of ionic bond?

(b) How can consumers detect adulterants in milk, turmeric and sugar at home?

(c) What are the edible molecules? Explain the differences between edible and non-edible molecules?

(d) Discuss the types of hydrogen bonding? (3+2,4,4,2)

3. (a) Write the toxic effects of Hg(II). What are reasons for the its toxicity? How it can be treated?

(b) How does air quality monitoring contribute to determining the AQI and its impact on public health?

(c) What is green chemistry? What are the twelve principles of green chemistry?

(d) What are polymers, and how are they formed? Explain with examples. (4,4,4,3)

4. (a) (i) What are thermosetting and thermoplastic polymer? Explain with suitable examples.

(ii) What is solubility test and why is it performed in chemistry?

(b) Explain the chemical weapons with examples and write their properties?

(i) What are antipyretics? Give an example.

(ii) Why was gold commonly used in ornaments in ancient civilizations? (3+2,5,3+2)