

DINHATA COLLEGE

3RD YEAR B.Sc. (CHEMISTRY) GENERAL ASSIGNMENT – 2018

SUBJECT – CHEMISTRY, PAPER – VII

FULL MARKS: 60

- What is meant by LPG and LNG? How can you detect leaking of LPG?
 - What is the role of thinners and binders present in paints?
 - Define primary and secondary fuels. Give examples.
 - What is white colour and waterproof cement?
 - Name two insecticides that belong to organochlorine and organophosphorous type respectively.
 - What is saponification and iodine value?
 - What do you mean by natural and cross-linking polymer?
 - What is margarine? (12)
- Write the composition of petroleum. What do you mean by petroleum refining and petroleum cracking? How it improves the quality of petroleum?
 - What are the major differences in composition water and producer gas? Describe the production of water and producer gas with necessary flow chart.
 - What do you mean by bio-gas and calorific value of a fuel? (12)
- What do you mean by Portland cement? Write down the names and structural formulae of the constituents present in it.
 - Describe the manufacturing process and setting of cement. Give the reaction there in.
 - Describe the manufacture of ZnO with necessary flow chart diagram. (12)
- Define porcelain and ceramics. Give examples. What is glazing and vitrification? What type of substance used as slip used at the production of ceramics substances?

(b) What is octane and octane number of a fuel? How can the octane number of a fuel can be improved? What do you mean by lead free gasoline?

(c) What is electroplating and galvanization? (12)

5. (a) Discuss the structural similarities between parathion and metathion.

(b) Describe the name, structure and use of an Organic insecticide that belongs to the Organophosphorous and carbamate group.

(c) Discuss the toxicological effect of different insecticides. Draw the structure of DDT and write its IUPAC name. (12)

6. (a) What do you mean by oil and fat ? What is the difference between them?

(b) Which type of acids are generally present in fat? Name two such acids and give their chemical formula.

(c) What are addition and condensation polymers? Give example of each? (12)

7. (a) Define paints and pigments. Give their main constituents. What are the characteristics of a good paint?

(b) Discuss briefly the preparation of PVC and mention its use.

(c) How is solar energy utilized by photovoltaic system? (12)

8. Write short notes on (any four)

(a) Classification of insecticides.

(b) Antiknock compounds.

(c) Rancidification of oil.

(d) Geo-thermal energy.

(e) Plasticizers.

(f) Synthetic detergents.

(3 × 4) = 12