

CARMEL COLLEGE OF ARTS, SCIENCE & COMMERCE FOR  
WOMEN, NUVEM

SEMESTER END EXAMINATION, JANUARY, 2022

SEMESTER III of B.Sc (SEC)

CHS101 NATURAL RESOURCES AND ANALYSIS

Time:2hrs Date:

Total Marks:60

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Q.1) Answer **any ten** of the following:

(2x10=20marks)

- i) Classify fuels on the basis of their occurrence and physical state.
- ii) What do you mean by Low Calorific Value (L.C.V) and High Calorific Value (H.C.V)?
- iii) Comment on the composition of coal.
- iv) How is coal gas obtained? What are its uses?
- v) Discuss the uses of blue gas and its composition.
- vi) What are the different steps involved in petroleum refining?
- vii) Name any two petroleum products and their respective uses.
- viii) Write a note on fractional distillation.
- ix) What is the primary objective of maintaining a proper nutrition.
- x) What are the common adulterants used in Turmeric and how they can be identified?
- xi) Write a short note on classification of soil particles based on their sizes.
- xii) What are Metal Ion Indicators? Give Examples.
- xiii) Define Water Pollution.
- xiv) Differentiate between carbonate hardness and non-carbonate hardness.

- Q.2.A) i)** Comment on the fuel and non-fuel uses of coal. (3)  
ii) What is cracking of petroleum? Explain its types. (2)

**OR**

- Q.2.A) iii)** Write a short note on Liquefied Petroleum Gas. (3)  
iv) What is coal gasification? (2)

- Q.2.B) i)** What do you understand by High Temperature Carbonisation and Low Temperature Carbonisation? (3)  
ii) Why there is a need for reforming of petroleum? (2)

- Q.3.A) i)** Explain the different types of Adulteration. (3)  
ii) How water pollution can be kept under control? (2)

**OR**

- Q.3.A) i)** Differentiate between Class I and Class II types of preservatives. (3)  
ii) Maintaining an alkaline pH is very important for complexometric titrations. Why? (2)

- Q.3.B) i)** Explain briefly the Soil Profile. (3)  
ii) What are the essential requirements for drinking water. (2)

- Q.4.A) i)** Discuss on any 3 different types of water pollutants. (3)  
ii) Define Soil Porosity and Soil Permeability. (2)

**OR**

- Q.4.A) iii)** Write a short note on BOD. (3)  
iv) What are Synthetic fuels? (2)

- Q.4.B) i) Write a note on the organic components present in the soil. (3)  
ii) What is Coagulation and Flocculation. (2)

- Q.5.A) i) Explain the following methods briefly. (3)  
a) Refrigeration  
b) Pickling  
c) Pasteurization  
ii) What is the significance of Dissolved Oxygen in water. (2)

OR

- Q.5.A) iii) Discuss the distillation of coal tar. (3)  
iv) What are the advantages of using Biogas. (2)
- Q.5.B) i) How does Industrial and Urban waste result in soil pollution. (3)  
ii) What is the aim of food processing? (2)

\*\*\*\*\*ALL THE BEST\*\*\*\*\*

*C Alvarez*  
*21/2/2021*