

2024

CHEMISTRY

B.Sc. Third Semester End Examination - 2024

PAPER - SEC-301T

Full Marks : 20

Time : 1 hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Group - A

Answer any five from the following questions. 2×5=10

1. Which type of coal is best for getting more energy?
2. What is flash point?
3. How can you estimate the % of hydrogen in the supplied coal sample?
4. Mention the process of manufacturing synthetic petrol.
5. What is calorific value? Mention its units.

(Turn Over)

(2)

6. What are the major constituent of LPG and Natural gas?
7. Give the flow diagram for the fractional distillation of crude oil.
8. What is meant by octane number?

Group - B

Answer any two from the following questions. **5×2=10**

9. Write a brief note on
 - (a) Producer gas.
 - (b) Carbonization of Coal **2½×2=5**
10. Write down the Otto Hoffman's process for the manufacturing of metallurgical coke. What are the advantages of it? **5**
11. (a) A coal sample on analysis gives. C=75%, H₂=6%, O₂=3.5%, S=03% and the rest is ash. Calculate the Gross and Net calorific values of the fuel. Latent heat of steam is =587 cal/gm.
(b) Give the schematic diagram for the distillation of oil from crude petroleum.
(c) What is the activity of tetra ethyl lead used in petrol?

2+2+1=5

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(Continued)

(3)

12. (a) What do you mean by conducting and non-conducting lubricating oil?
(b) What do you mean by cloud point?
(c) Give two examples of clean fuel. **2+2+1=5**

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