

Industrial Chemistry

1. What are merit & demerits of solid, liquid & gaseous fuel.
2. Write a short note on: i) Octane number ii) Cetane number iii) Proximate analysis iv) Ultimate analysis v) Aviation fuel vi) bio-diesel.
3. Define calorific value, LCV & HCV.
4. What are the objectives of carbonization? What are the products of HTC? How are they separated? Give their uses. What are the differences between HTC & LTC?
5. Define octane number and cetane number. How can the octane number be improved?
6. What is LPG? Why is it used as a domestic fuel? How does the gasoline and diesel differ in chemical composition?
7. What are water gas and semi-water gas? How do gasoline and diesel differ in chemical composition? What is flue gas?
8. What is the importance of unleaded gasoline? Which type of hydrocarbons is suitable as components of unleaded gasoline and why?
9. Indicate the major fractionation products along with their boiling range and uses obtainable from atmospheric distillation of crude oil.
10. Distinguish between thermal and catalytic cracking.
11. What is CNG and what is its composition? Mention two uses of CNG. What are the advantages of CNG?
12. Why a good motor engine fuel is not good diesel engine fuel or vice versa?
13. What is anti-knocking compound? Discuss the function of TEL as anti-knocking agent. What is unleaded petrol? Write its significance.
14. What is spontaneous ignition temperature of a fuel?