

**MASTER OF CHEMICAL ENGINEERING EXAMINATION, 2017**

**(1<sup>st</sup> Year, 2<sup>nd</sup> Semester)**

**PETROLEUM REFINERY ENGINEERING AND PETROCHEMICALS**

Time: Three hours

Full Marks: 100

Answer any ten questions

10×10

1. Discuss the different types of hydrocarbons present in crude oil.
2. Why crude oil need to be desalted? Discuss the electrostatic desalting process.
3. With the help of a neat flowsheet discuss how the atmospheric distillation column operates.
4. With the help of a flowsheet discuss how the FCC unit operates.
5. With the help of a flowsheet discuss the Catalytic Hydrodesulfurization Process.
6. Give an idea about the wet H<sub>2</sub>S corrosion in a refinery.
7. Discuss the important tests for gasoline and justify them.
8. Discuss the steam reforming process of natural gas for the production of Synthesis gas
9. With the help of a flowsheet discuss the high pressure polyethylene (LDPE) manufacturing process.
10. Discuss the steps in the production of sodium dodecylbenzene sulphonate (flowsheet not needed).
11. Discuss how Carbon black is produced.