



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions: (15x2=30)**

1. Name any four different unit operations treatment of crude oil.
2. What do you understand about migration?
3. Explain the term isomerization.
4. Define octane number of fuel?
5. What are the products of catalytic cracking?
6. Write any four fractions with carbon range obtained from fractional distillation.
7. What are environmental problems associated with pulp manufacturing.
8. Why non-fibrous materials are removed in paper manufacturing?
9. Which agriculture waste is used in paper manufacturing?
10. What is the role of beating process in paper manufacturing?
11. Write down applications of potash fertilizers.
12. What are raw materials for ammonia synthesis?
13. Give two examples of micro and macro nutrients for soil.
14. What are natural organic fertilizers, give examples.
15. What is the difference between normal superphosphate and triple superphosphate fertilizers?

**Q.2. Answer the following questions. (6x5=30)**

1. Explain refining process in petroleum industry; also write down its main products.
2. What is catalytic reforming and why it is used?
3. Compare Sulphate and Sulphite processes for paper manufacturing.
4. Explain paper manufacturing through cylindrical machine.
5. Write raw materials, chemical reactions in production of urea and its assimilation in soil.
6. Describe different types of calcium fertilizers; write important raw materials used for their manufacturing.