Q.P. Code :08571

[Time: 2½ Hours] **[Marks:60]**

Please check whether you have got the right question paper.

N.B:
1. **All** questions are **compulsory**.
2. **All questions carry equal marks.**
3. **Draw neat and labelled diagrams wherever necessary.**

Q.1 Answer **any two** questions from following :

a. Explain zero waste technology. **06**
b. Explain in brief twelve principles of green chemistry. **06**
c. Describe the concept of atom economy and carbon trading. **06**

Q.2 Answer **any two** questions from following :

a. Explain importance and use of immobilized solvents and ionic liquids. **06**
b. How are starting materials selected for green synthesis and what is the use of blocking / protecting groups? **06**
c. Explain use of microwaves and ultrasonic as energy requirements in green synthesis. **06**

Q.3 Answer **any two** questions from the following:

a. Explain briefly green nanoparticle production and characterization. **06**
b. How can nanotechnology be used for resource conservation? **06**
c. Write short notes on (i) Fullerene (ii) Carbon nanotube **06**

Q.4 Answer **any two** questions from following :

a. Describe solar photovoltaic technology. **06**
b. Explain production of biofuels from ethanol and give its applications. **06**
c. Explain concept of green buildings. **06**

Q.5 Answer **any four** question from the following:

a. Green technology in food processing. **03**
b. Electric vehicle. **03**
c. Selection of auxilliary substances. **03**
d. Designing of biodegradable products. **03**
e. Concept of environmentally balanced industrial complexing. **03**
f. Bio compatibility. **03**
