

22549

12425

3 Hours / 70 Marks

Seat No.

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| | | | | | | | |
|--|--|--|--|--|--|--|--|

- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.

Marks

1. Attempt any FIVE of the following :

10

- (a) State non-conventional energy sources.
- (b) State law of conservation of energy.
- (c) State any two limitations of solar energy.
- (d) State and explain pathological waste.
- (e) Draw flow chart of biomedical waste management process.
- (f) Explain Autoclaving for biomedical waste treatment.
- (g) Write any two safety and precautionary measures used for waste management.

2. Attempt any THREE of the following :

12

- (a) Compare conventional and non-conventional energy sources (any 2 points of each).
- (b) Draw the biogas plant and explain its working.
- (c) Explain energy audit. State and explain any two instruments used for energy audit.
- (d) Describe WHO guidelines for hospital waste management.



- 3. Attempt any THREE of the following : 12**
- (a) Draw thermal power plant and state how it works.
 - (b) State the need of solar collector. Draw flat plate solar collector and explain its working.
 - (c) State and explain features of Electricity Act 2003.
 - (d) Classify biomedical waste according to the categories and their colour code.
- 4. Attempt any THREE of the following : 12**
- (a) Describe present scenario of energy in Maharashtra.
 - (b) Draw the basic blocks of wind power plant and explain its working.
 - (c) State any four laws regarding environment protection.
 - (d) Explain methods for treating hazardous medical waste.
 - (e) Explain plasma pyrolysis method for biomedical waste management.
- 5. Attempt any TWO of the following : 12**
- (a) Draw schematic layout of hydroelectric power plant and explain its working.
 - (b) State and explain environmental pollution due to medical waste and its impact on human health.
 - (c) State and explain microwave irradiation technique and state applications of it.
- 6. Attempt any TWO of the following : 12**
- (a) Draw and explain the working of a PV cell. State any two applications of solar energy.
 - (b) State and explain the working principle of lux meter. Write its any two applications.
 - (c) Draw and explain solid waste incineration technology.
-