

22506

12425

3 Hours / 70 Marks

Seat No.

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- 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.
  - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
  - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. Attempt any FIVE of the following :

**10**

- (a) State two benefits of Environmental Impact Assessment (EIA).
- (b) Define non-renewable resources and renewable resources of Energy.
- (c) Give the necessity of Environmental Audit.
- (d) Enlist any four non-renewable energy resources.
- (e) Define Green-roof.
- (f) Define LEED zero carbon.
- (g) Define LEED criteria.



**2. Attempt any THREE of the following :****12**

- (a) Suggest preventive measures to reduce the air pollution.
- (b) Describe causes of water pollution with the following :
  - (i) Industrial waste
  - (ii) Mining Activities
  - (iii) Chemical Fertilizers and Pesticides.
  - (iv) Marine dumping
- (c) Explain Environment (Protection) Act, 1986 (EPA).
- (d) Explain Environmental Audit Process with the following stages :
  - (i) Pre-audit or planning stage.
  - (ii) On site or Field Audit
  - (iii) Post Audit
  - (iv) Follow-up or Review stage

**3. Attempt any THREE of the following :****12**

- (a) Explain client driven type of Environmental Audit.
- (b) Explain Environmental Design (ED) strategies for Building Construction.
- (c) Explain the role of HVAC system in green building.
- (d) Explain green building with following benefits :
  - (i) Social benefits
  - (ii) Economic benefits
  - (iii) Environmental benefits

**4. Attempt any THREE of the following :****12**

- (a) Differentiate between GRIHA and IGBC rating system of green building.
- (b) Describe the criteria of conservation and efficient utilization of resources as per GRIHA rating system with following criterion :
  - (i) Site selection
  - (ii) Preserve and protect landscape during construction
  - (iii) Soil conservation
  - (iv) Design to include existing site features.
- (c) Explain LEED certification criteria with the following categories :
  - (i) Location and Transportation
  - (ii) Material and Resources
  - (iii) Water efficiency
  - (iv) Sustainable site
- (d) Explain LEED criteria for building operation and maintenance.
- (e) Write the certification criterion of IGBC for educational building.

**5. Attempt any TWO of the following :****12**

- (a) Explain the steps involved in Environmental Impact Assessment process.
- (b) Differentiate between renewable and non-renewable energy sources.
- (c) Explain Maharashtra Energy Development Agency (MEDA) with functions for energy conservation.

**6. Attempt any TWO of the following :**

**12**

- (a) Explain salient features of Green Building.
  - (b) Explain specific objectives of energy conservation.
  - (c) Explain strategies for the sustainable site design for green building.
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