

22506

23242

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.
 - (5) 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 any four ISO standards related to environmental auditing.
- (b) Explain Environmental Management System (EMS) Audit.
- (c) List any four non-renewable energy sources.
- (d) Define renewable energy source.
- (e) Define the term Green Building.
- (f) List various categories for Green New Buildings rating system developed by IGBC.
- (g) Define LEED zero.

2. Attempt any THREE of the following :

12

- (a) Explain any four pollutants by giving National Ambient Air Quality Standards [NAAQS - 2009].
- (b) Describe the health effects due to noise pollution and give its threshold limits for different areas notified in the Environment (Protection) Rules, 1986.
- (c) Explain any eight provisions under the water (Prevention and Control of Pollution) Act, 1974 as amended in 1978 and 1988.
- (d) State the necessity of environmental impact assessment.



- 3. Attempt any THREE of the following : 12**
- (a) Explain the tools and techniques used in environmental auditing.
 - (b) Explain LEED for building design & construction.
 - (c) State the merits of Green building over traditional building.
 - (d) Explain the components of Indoor Environmental Quality for IGBC Green New Building rating system.
- 4. Attempt any THREE of the following : 12**
- (a) Explain the application of Rice Husk Ash in the construction.
 - (b) Explain HVAC design system.
 - (c) Explain Green Roof of a building.
 - (d) Explain the design envelope to reduce heating, cooling, lighting and ventilation loads.
 - (e) Describe the evaluation system of GRIHA.
- 5. Attempt any TWO of the following : 12**
- (a) Describe ISO standards related to environmental auditing.
 - (b) Explain the salient features of the Energy Conservation Act, 2001.
 - (c) Describe the present scenario of energy conservation in India.
- 6. Attempt any TWO of the following : 12**
- (a) Explain the functions of MEDA for energy conservation and audit.
 - (b) Describe the components of sustainable architecture and design.
 - (c) Compare LEED, GRIHA and IGBC systems for rating Green Buildings.
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