

SUBJECT: ENERGY CONSERVATION-II (LUMINOUS ENVIRONMENT)

Day: Thursday
Date: 23-12-2021

Time: 10:00 AM-12:30 PM

Max. Marks: 60

W-19792-2021

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the **RIGHT** indicate full marks.
- 4) Assume suitable data and draw figures if necessary.

SECTION-I

- Q.1** Write short notes on: (**Any two**) (10)
- a) Four basic sky conditions
 - b) Luminous intensity and Luminous flux
 - c) Contrast and adaption
- Q2.** Describe the following terms in detail: (**Any two**) (10)
- a) Daylight factor and external illumination
 - b) Reflectance and transmittance
 - c) Methods of daylight analysis
- Q.3** Answer the following: (**Any one**) (10)
- a) Explain design considerations for using daylight in libraries.
 - b) Explain factors of visual acuity in detail with sketches.

SECTION-II

- Q.4** Write short notes on : (**Any two**) (10)
- a) Luminaire efficacy rating and luminaire room system efficiency.
 - b) Uniformity of illumination.
 - c) Lighting control strategy.
- Q.5** Describe the following in detail: (**Any two**) (10)
- a) Fibre Optic Technology with the help of classification, terminologies, arrangements and applications.
 - b) Design aids for lighting design.
 - c) Types of lighting systems and illumination methods in detail with sketches and examples.
- Q.6** Answer the following : (**Any one**) (10)
- a) Explain goals of lighting design and lighting design procedure in detail. Examine the cost factors, power budgets, standards and energy considerations in lighting design.
 - b) Explain in detail the lighting design considerations for residential lighting. Identify design suggestions, lighting sources and energy factors, luminaires and lighting controls.

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