

22661

12526

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 answer with neat sketches wherever necessary.
- (4) Figures to the right indicate full marks.
- (5) Assume suitable data, if necessary.
- (6) 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) Enlist any four solar thermal collectors.
- b) State applications of biofuels.
- c) State the function of PV cell.
- d) Name any four components of Micro Hydro Power System.
- e) State four advantages of Micro Hydro Power System.
- f) State the types of batteries used in solar photovoltaic system.
- g) Name any four Hybrid systems.

P.T.O.

- 2. Attempt any THREE of the following: 12**
- a) Explain domestic water heating system with neat sketch.
 - b) Explain the term “Net Metering”.
 - c) Draw neat labelled structure of Vertical Axis Wind Turbine.
 - d) Write maintenance procedure of “Biogas Plant”.
- 3. Attempt any THREE of the following: 12**
- a) Explain with neat sketch the working of “Solar Tower”.
 - b) Write different methods of Battery selection.
 - c) Explain working of floating dome type biogas plant with neat sketch.
 - d) Explain working of “Smokeless Chulha” with neat labelled sketch.
- 4. Attempt any THREE of the following: 12**
- a) Explain stand alone street light system with neat sketch.
 - b) State advantages of Hybrid energy systems.
 - c) Draw a labelled layout of Micro-Hydro Power Plant. Explain its principle of working.
 - d) Explain solar biogas hybrid system with neat sketch.
 - e) Write maintenance procedure of Micro Hydro Power System.
- 5. Attempt any TWO of the following: 12**
- a) Explain with neat sketch construction and working of flat plate collector.
 - b) Describe with neat sketch, Horizontal Axis Wind Turbine, along with components and their functions.
 - c) Explain Grid connected and stand-alone photovoltaic systems.
- 6. Attempt any TWO of the following: 12**
- a) State the classification of solar dryers. Explain cabinet type solar dryer with neat sketch.
 - b) Draw layout of wind-solar PV hybrid system. Describe its construction and working.
 - c) Write in detail the maintenance procedure of large horizontal axis wind turbine.
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