Reg. No. : | | | | | | | | | | |

Question Paper Code: 59373

B.E./B.Tech. DEGREE EXAMINATION, DEC 2020

Open Elective

Civil Engineering

15UEE973 - SOLAR POWER PLANTS

(Common to CSE,ECE,EIE, Mechanical, IT, Chemical)

(Regulation 2015)

Duration: One hour Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following Questions)

1. In thermal power plant, turbine is placed CO1- R

   (a) before boiler (b) in between boiler and generator

   (c) after generator (d) any of the above

2. In thermal power plants, the dust of flue gases is trapped by CO1- R

   (a) Precipitator (b) Economizer (c) Superheater (d) Air preheater

3. What is the air standard cycle for a Gas-Turbine called? CO2- R

   (a) Reheat cycle (b) Rankine cycle (c) Brayton cycle (d) Diesel cycle

4. Which of the following is a type of Gas Turbine Plant? CO2- R

   (a) Single Acting (b) Double Acting

   (c) Open (d) None of the mentioned

5. Reflecting mirrors used for exploiting solar energy are called..... CO3- R

   (a) Mantle (b) Ponds (c) Diffuser (d) Heliostats

6. Flat plate collector absorbs..... CO3- R

   (a) Direct radiation only (b) Diffuse radiation only

   (c) Direct and diffuse both (d) All of the above

7. The voltage of a single solar cell is..... CO4- R

(a) 0.2 V (b) 0.5 V (c) 1.0 V (d) 2.0 V

8. The output of solar cell is of the order of..... CO4- R

(a) 1 W (b) 5 W (c) 10 W (d) 20 W

9. Flat rate tariff is charged on what basis? CO5- R

(a) Connected load (b) Units consumed

(c)Maximum demand. (d) Both (a) and (b).

10. The life span of PV module is CO5- R

(a) 10 years (b) 15 years (c) 20 years (d) 25 years

PART – B (3 x 8= 24 Marks)

(Answer any three of the following Questions)

11. Draw the schematic diagram of a nuclear power station and discuss its operation.. CO1- U (8)

12. Compare the different types of Reheat cycle with neat diagram CO2-U (8)

13. Explain the operation of solar flat plate collector with neat diagram CO3-U (8)

14. Discuss in detail about the operation of grid-connected photovoltaic system. CO4- U (8)

15. Discuss in detail about the Methods to Calculate the Plant Economy CO5- U (8)