Reg. No. :

Question Paper Code: 58763

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

One Credit

Mechanical Engineering

15UME863-SOLAR ENERGY

(Regulation 2015)

Duration: 1.30 hours   Maximum: 30 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The Collector Concentrator mirror reflector having the shape?

    (a) Cylinder   (b) Cylindrical parabola   (c) Tube   (d) Sphere

2. Which of the following is a non-renewable resource?

    (a) Coal   (b) Forests   (c) Water   (d) Wildlife

3. Solar air heaters used for

    (a)Industrial Purpose   (b)Drying for agricultural
    (c) Space heating   (d) All the above

4. Flat plate collector absorbs_____
    (a) Direct radiation only   (b) Diffuse radiation only
    (c) Direct and diffuse both   (d) All of the above

5. Solar air heater volume of fluid is to be handled as

    (a)large volume   (b) less volume
    (c) Maximum volume   (d) Half of the volume

6. Fuel cells are:

    (a) Carbon cell   (b) Hydrogen battery
    (c) Nuclear cell   (d) Chromium cell

7. Solar system future cost is

    (a) Rapair   (b) Insurance   (c) Taxes   (d) All the above

8. Which is the variable cost

    (a) Collector   (b) Solar components   (c) Sensor devices   (d) None of the above

9. Common energy source in villages is

    (a) Electricity   (b) Coal   (c) Sun   (d) Wood and animal dung

10. The value of the heat transfer coefficient between the absorber plate
and the air is low then the efficiency is

    (a) Lower efficiency   (b) Higher efficiency

    (c) Medium efficiency   (d) None of these

<div align="center">PART - B (20 x 1 = 20 Marks)</div>

11. (a) (i) Explain with neat sketch parabolic trough and parabolic dish collectors in detail.

                                                                                      (10)

    (ii) Explain with a neat diagram working of a solar water heating.   (10)

<div align="center">Or</div>

    (b) Explain with neat sketch of a solar heating system with suitable example and discuss the solar air conditioning.   (20)

<div align="center">————————————</div>