

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code: R8763

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2025

One Credit Course

R21UME863– SOLAR ENERGY

Mechanical Engineering

(Regulations R2021)

Duration: 1.30 hours

Maximum: 50 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What is the difference between renewable and non-renewable energy? CO1- U
2. Mention two advantages of using solar energy as an energy source. CO1- U
3. List two types of solar power plants and briefly describe their operation. CO1- U
4. What are the environmental advantages of using solar power plants? CO1- U
5. Why is economic analysis important in evaluating solar energy projects? CO1- U
6. How does a solar ice maker contribute to energy conservation in rural areas? CO1- U
7. How does a Concentrated Solar Collector differ from a Flat Plate Collector? CO1- U
8. What is the function of a solar cooker, and what are its main components? CO1- U
9. Mention two challenges facing the large-scale adoption of solar energy. CO2- App
10. How does a solar ice maker contribute to energy conservation in rural areas? CO1- U

PART – B (2 x 15= 30 Marks)

11. (a) Demonstrate the flat plate collector with a neat sketch with proper explanation CO1 - U (15)
- Or
- (b) Compare the mirror strip collector and Fresnel collector with a neat sketch with proper explanation CO1 - U (15)

12. (a) Outline with a neat diagram and working of a solar Still with proper explanation CO2 - U (15)
- Or
- (b) Demonstrate with a neat diagram working of any one recent advances in solar energy technology with proper explanation CO3-U (15)