

Reg. No. :

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Question Paper Code: U8763

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2025

One credit

Mechanical Engineering

21UME863 -SOLAR ENERGY

(Regulations 2021)

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. How does human activity impact energy consumption and its sources? CO1- U
3. List two major renewable energy sources and their significance. CO1- U
4. What are energy alternatives, and why are they important for the future? CO1- U
5. Describe the working principle of a Flat Plate Solar Collector. CO1- U
6. List two types of solar power plants and briefly describe their operation. CO1- U
7. How does solar air conditioning differ from conventional air conditioning? CO1- U
8. What is the function of a solar cooker, and what are its main components? CO1- U
9. How is solar energy used in agricultural applications? Provide two examples. CO1- U
10. What are two key advances in solar energy technology in recent years? CO1- U

PART – B (2 x 15= 30 Marks)

11. (a) Explain the flat plate collector with a neat sketch CO1 - U (15)
Or
(b) Demonstrate with a neat diagram working of Solar Ice Maker CO1 - U (15)
12. (a) Compare the mirror strip collector and Fresnel collector with a neat sketch. CO1 - U (15)
Or
(b) Describe with a neat diagram working of a solar cooker. CO1 - U (15)

