

Reg. No. :

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**Question Paper Code: U8364**

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2024

One credit

Electrical and Electronics Engineering

21UEE864 - SOLAR PHOTO VOLTAIC

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 2 = 10 Marks)

- |  |         |
|--|---------|
| 1. Define Solar Constant   | CO1 - U |
| 2. Define energy density and power density of a solar cell               | CO2- U  |
| 3. What is net metering?   | CO3 -U  |
| 4. What are the conditions for synchronizing PV inverters with the grid? | CO3 -U  |
| 5. Mentioned any three advantage of Grid connected PV system ?           | CO1 -U  |

PART – B (5 x 16= 80 Marks)

- |  |         |      |
|--|---------|------|
| 6. (a) Explain the following terms of a Solar Cell | CO1 - U | (16) |
| a) Short circuit current                           |         |      |
| b) Open circuit voltage                            |         |      |
| c) Fill Factor                                     |         |      |
| d) Efficiency                                      |         |      |

Or

- |   |         |      |
|---|---------|------|
| (b) Explain in detail about PV cell interconnection & Module fabrication                  | CO1 -U  | (16) |
| 7. (a) Give the block diagram of Standalone PV system . Briefly discuss any one PV scheme | CO2 - U | (16) |

Or

- |  |         |      |
|--|---------|------|
| (b) Analyze the DC and/or AC applications of standalone PV systems | CO2 - U | (16) |
|--|---------|------|

