*R18 Regulation* *Subject code:2O6CB*

# TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

## B.Tech VI Semester Supplementary Examinations, May 2025

## SOLAR ENERGY APPLIANCES

*(ME)*

***Maximum Marks: 70*** Date: 25.06.2025 Duration: 3 hours

**Note:** **1.This question paper contains two parts A and B.**
**2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.**
**3. Part B consists of 5 Units. Answer any one full question from each unit.**
**4. Each question carries 10 marks and may have a, b, c, d as sub questions.**

Part-A

| All the following questions carry equal marks (10X2M=20 Marks) | | Marks | CO | BTL |
|---|---|---|---|---|
| 1 | What is Solar Cell? | 2M | 1 | L1 |
| 2 | Write a short notes on Solar Lanterns | 2M | 1 | L1 |
| 3 | List out different applications of Solar Lighting systems | 2M | 2 | L1 |
| 4 | How do you determine the Cooking Time for food products? | 2M | 2 | L1 |
| 5 | What is solar drying list the advantages and disadvantages of solar drying? | 2M | 3 | L1 |
| 6 | What are the main applications of a solar dryer? | 2M | 3 | L1 |
| 7 | Explain the necessity of Solar Desalination | 2M | 4 | L1 |
| 8 | Write a short notes on Solar disinfection | 2M | 4 | L1 |
| 9 | Explain about Heliostat. | 2M | 5 | L1 |
| 10 | State the components of a Solar furnace | 2M | 5 | L1 |

Part-B

| Answer All the following questions. (5X10M=50Marks) | | Marks | CO | BTL |
|---|---|---|---|---|
| 11 | Discuss about Solar Home Lighting Systems. | 10M | 1 | L2 |
| | OR | | | |
| 12 | Sketch and explain about Solar Lanterns. | 10M | 1 | L2 |
| 13 | Discuss about Rural electrification process with a case study. | 10M | 2 | L2 |
| | OR | | | |
| 14 | Explain the advantages, disadvantages and applications of Solar cooking systems. | 10M | 2 | L2 |
| 15 | Discuss about Solar timber drying system. | 10M | 3 | L2 |
| | OR | | | |
| 16 | Discuss about Forced circulation type solar dryer. | 10M | 3 | L2 |
| 17 | Differentiate between conventional and solar desalination. | 10M | 4 | L2 |
| | OR | | | |
| 18 | Explain about wick type solar still with example. | 10M | 4 | L2 |
| 19 | Explain single concentrator furnaces with neat sketch. | 10M | 5 | L2 |
| | OR | | | |
| 20 | Explain any two case studies on solar furnaces. | 10M | 5 | L2 |