

Name:
Enrolment No:



End Semester Examination – May, 2022

Program/course: MBA (Power Management)
Subject: Solar Power Development and Management
Code: PIPM 7005
No. of page/s: 2

Semester : 2nd
Max. Marks : 100
Duration : 3 Hrs

All questions shall be strictly answered in chronological order.

SECTION A

**[10*2 Marks =
20 Marks]**

Ques 1

Briefly explain the following:

- a) GHI
- b) DNI
- c) DHI
- d) Solar Constant
- e) CUF
- f) Pyranometer
- g) Concentrated Solar Power
- h) Auxiliary Power Consumption
- i) Solar Park
- j) National Solar Mission

20

CO1

SECTION B

**[6*5 Marks =
30 Marks]**

Ques 2

State True or False for the following statements and justify your stand. All the questions in this section carry 5 marks each, out of which, 1 mark is for correctly stating True or False and 4 marks for justification.

- a) Operation and maintenance is easy for all types of solar power projects.
- b) Grid power is essential for the export of power from solar PV power plant to the grid.
- c) Concentrating solar power plants don't have large scale water requirements.
- d) CUF of solar thermal power plants is generally higher than that of solar PV power plants.
- e) Concentrating solar collector can utilize all types of solar radiation.
- f) The maximum output of solar PV panel remains constant throughout its useful life.

30

CO2

| <u>SECTION C</u> | | [3*10 Marks = 30 Marks] | |
|--|--|--------------------------------|------------|
| Answer any three questions from this section. | | | |
| Ques 3 | Discuss the challenges and opportunities associated with solar power in India. | 10 | CO3 |
| Ques 4 | During last few years, solar power tariffs have been consistently falling in India. Discuss three main reasons for such a trend. | 10 | CO3 |
| Ques 5 | In the estimation of solar power tariff, principal component of loan and equity component is not included directly but it is indirectly accounted in the tariff. Justify. | 10 | CO3 |
| Ques 6 | In India, there has been large scale capacity addition of solar PV but very little installation of solar thermal power plant. Explain the reasons. | 10 | CO3 |
| <u>SECTION D</u> | | [1*20 Marks = 20 Marks] | |
| Answer any one question from this section. | | | |
| Ques 7 | As an advisor to Government of India on Renewable Energy, suggest four policy initiatives for accelerated development of solar power industry in India. | 20 | CO3 |
| Ques 8 | Explain the working of a solar PV power plant with the help of a block diagram indicating PV arrays, Power-conditioning units (inverters), MCBs, Transformers, LT Panels, HT Panels, HT metering cubicle and Grid. | 20 | CO3 |