

March 2023 – June 2023 // **Non – Conventional Energy Sources(NCES) – 18ME651**
Assignment # 01 – Module – 1 & 2(Partial) **Submission Due: 26th April 2023**

Note: Instructions from A01 are relevant and applicable in this and all subsequent assignments.

- ANSWER NEATLY AND LEGIBLY on **A4 sheets / Assignment book** and not in sheets torn from a book.
- Sketch diagrams wherever relevant. Explain your notations explicitly and clearly.
- An incomplete assignment is not acceptable for submission.
- Once you submit your assignment, you will be expected to answer all the questions there **INDEPENDENTLY**. You may be asked to answer any question of the assignment in the class

Sl. No.	Questions	CO	RBT
1.	Elaborate on India's production and reserves of commercial energy sources.	CO1	L1
2.	Differentiate between conventional and non-conventional energy sources. Enlist the merits and demerits of any 2 non-conventional energy sources.	CO1	L1
3.	Explain with neat sketch the energy sources (production of oil) from Tar sand and oil shale.	CO2	L2
4.	With neat sketch explain the working principle of Pyrheliometer. How does it differ from Pyrometer?	CO2	L2
5.	What are the various instruments used for solar radiation measurement? With a neat sketch explain the working of a Sunshine recorder.	CO2	L2
6.	With schematic representation, explain the mechanism of absorption, scattering, beam and diffuse radiation received at earth's surface.	CO2	L1
7.	With reference to solar radiation geometry, define: solar constant, latitude angle, declination angle, hour angle, solar azimuth angle, surface azimuth angle, solar time, inclination angle, tilt angle, angle of incidence and solar day length.	CO6	L2
8.	What is the need of alternate energy sources? Explain by considering solar energy.	CO5	L2
9.	Write a short note on spectral distribution of extra – terrestrial radiation	CO4	L2
10.	** Numerical	CO1	L1