

Reg. No.



# MANIPAL INSTITUTE OF TECHNOLOGY

**MANIPAL**
*(A constituent unit of MAHE, Manipal)*

## II SEMESTER M.TECH. END SEMESTER EXAMINATIONS MAY 2023

### SUBJECT: ENERGY AND ENVIRONMENT [CIE 5052]

Date of Exam: 02/06/2023

Time of Exam: 09:30AM-12:30PM

Max. Marks: 50

#### Instructions to Candidates:

❖ Answer ALL the questions & missing data may be suitably assumed

1A.	Illustrate the magnitude and significance of the environmental impacts.	05	CO1	3
1B.	With a neat sketch illustrate the working of electrostatic precipitator.	05	CO1	3
2A.	With a neat sketch illustrate the once-through cooling system.	05	CO1	3
2B.	Write a short note on Wet Scrubber. Illustrate the four principles involved in the operation of wet scrubber.	05	CO1	3
3A.	With a neat sketch illustrate the stages in anaerobic digestion of solid wastes.	05	CO2	3
3B.	Analyze the factors affecting energy recovery potential of solid wastes.	05	CO2	4
4A.	Illustrate the four major stages in Life Cycle Assessment framework.	05	CO3	3
4B.	Write a short note on detailed energy audit (DEA). Illustrate the phases in DEA.	05	CO4	3
5A.	With a neat sketch illustrate the five elements of passive solar building design.	05	CO5	3
5B.	With a neat sketch illustrate the isolated gain passive solar heating.	05	CO5	3