Name: Enrolment No:	ⓦUPES UNIVERSITY OF TOMORROW

UPES
End Semester Examination, May 2024

Course: Life Cycle Assessment of Renewable energy   **Semester: II**
Program: M.Tech RE   **Time   : 03 hrs.**
Course Code: EPEC7081P   **Max. Marks: 100**

Instructions: Ask for the data table available with the exam hall invigilator

SECTION A (5Qx4M=20Marks)			
S. No.		**Marks**	**CO**
Q 1	Give any four basic principles of environmental impact assessment.	**4**	**CO2**
Q 2	Name any two pollutants and method of their determination in air impact assessment.	**4**	**CO3**
Q 3	List out any four tasks of EIA team leader.	**4**	**CO2**
Q 4	Define functional unit and reference flow in life cycle assessment.	**4**	**CO5**
Q 5	With an example each, define the midpoint category and midpoint characterization factor.	**4**	**CO2**
SECTION B (4Qx10M= 40 Marks)			
Q 6	Name any four objectives of scooping of EIA and explain any three scooping methods.	**10**	**CO4**
Q 7	Explain the baseline monitoring of environmental components.	**10**	**CO2**
Q 8	Calculate the life cycle cost of two different petrol cars from the data given below and suggest the economical one. The lifetime of both the cars is 4,00,000 km and price of petrol is INR.95. { Car Model | Price (INR) | Fuel economy (km/L) | Annual Maintenance (INR); X | 12,00,000 | 15 | 5000; Y | 13,00,000 | 20 | 4000 }	**10**	**CO1**
Q 9	Give a brief account of any two recent methods of impact assessment in LCA. (Or) Explain the steps involved in the interpretation stage of LCA.	**10**	**CO2**
SECTION-C (2Qx20M=40 Marks)			

The Q8 data table:

Car Model	Price (INR)	Fuel economy (km/L)	Annual Maintenance (INR)
X	12,00,000	15	5000
Y	13,00,000	20	4000

Q 10	Discuss the process-based and input-output methods of inventory analysis and compare their advantages and disadvantages. (Or) From the given data, calculate the inventory of aluminium front-end panel for the functional unit of 3,00,000 km	20	CO3
Q 11	For the aluminium front-end panel, calculate and report the damage impact score of global warming and PM: Respiratory Inorganics using the data provided. The functional unit is 3,00,000 km.	20	CO5