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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Third Semester B.Tech Degree Regular and Supplementary Examination December 2022 (2019 Scheme)

Course Code: MCN201

Course Name: Sustainable Engineering

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions. Each question carries 3 marks Marks

1	What is the need for sustainability?	3
2	Explain the nexus between technology and sustainable development	3
3	What are the causes of air pollution?	3
4	What is greenhouse effect?	3
5	What are the benefits of implementing environmental management system?	3
6	Explain the term circular economy	3
7	Differentiate between first, second and third generation bio fuels	3
8	What are the disadvantages of small hydro power plants?	3
9	What is meant by sustainable habitat?	3
10	What are the harmful impacts of transportation sector on sustainability?	3

PART B

Answer any one full question from each module. Each question carries 14 marks

Module 1

11	a.	Explain clean development mechanism - 7 marks	14
	b.	Explain the concept of sustainable development – 7 marks	
12	a.	Write notes on social, environmental and economic sustainability concepts - 9 marks	14
	b.	What are the challenges for sustainable development? - 5 marks	

Module 2

13	What are the various sources of solid waste? Explain methods of solid waste management and zero waste concept	14
14	Explain carbon footprint and ways to reduce your carbon footprint	14

Module 3

15	Write notes on life cycle analysis	14
16	Explain industrial ecology and industrial symbiosis	14

Module 4

17	Explain conventional and non conventional energy sources	14
18	How can energy be derived from oceans?	14

Module 5

19	Explain the concept of green engineering	14
20	Write notes on sustainable cities	14