

**Centre for Rural Development and Technology**

Indian Institute of Technology Delhi, Hauz Khas, New Delhi

**Name and Number of Course: Rural Energy Systems (RDL722)**

**Name of Exam: Minor - Online**

Date: 14<sup>th</sup> February 2022; Time: 08:30 AM–09:50 AM

[The question paper is uploaded at [MS Teams Platform at 08:30 AM on 14-02-2022](#) and answers script (scanned and single PDF file) shall be submitted only at [MS Team Platform before or at 09:50 AM on the day](#)]

<b>Time: 1.0 h 20 minutes</b>		<b>Maximum Marks: 30.0</b>
Q1.	What is a general scenario of energy in our country and discuss energy consumption pattern of a rural and urban families? Differentiate between rural energy system with urban energy system, deliberate with reasons of their climate impacts?	5.0
Q2.	Compare characteristics of energy supply system in reference to - energy mix patterns, problems & potentials in variation from place to place, availability, accessibility, affordability, alternatives, income level, socio-cultural practices, climate, etc. in rural scenario.	5.0
Q3.	State and explain various theories available to describe the superiority of biomass energy systems.	5.0
Q4.	Consider chemical formula of Pongamia oil and estimate amount of ethanol required to produce bio-diesel using 100 kg of raw oil.	5.0
Q5.	Describe the parameters of the characterization of biomass along with their significance in the energy conversion process.	5.0
Q6.	How equivalence ratio determines the operation of thermochemical conversion processes.	5.0

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