

II B. Tech I Semester Regular Examinations, March - 2021
RENEWABLE ENERGY SOURCES
 (Agricultural Engineering)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions each Question from each unit
 All Questions carry **Equal** Marks

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- 1 a) Draw and explain how the power is generated by use of concentrating collectors. [8M]
 b) Explain extraterrestrial and terrestrial solar radiation. [7M]
- Or
- 2 a) What are the prospects of renewable energy sources India? Mention of the advantages of renewable energy sources [8M]
 b) Why the flat plate collectors are classified as low temperature collectors? Explain with neat diagram [7M]
- 3 a) With a neat sketch, explain the working of solar furnace. [8M]
 b) Describe with neat sketch the working principle of horizontal axis wind mill. [7M]
- Or
- 4 a) Explain the working of vertical axis wind mill mentioning the specific arrangement of the blades. [8M]
 b) Explain the principle, construction and working of solar pond. [7M]
- 5 a) List out the differences between anaerobic and aerobic digestion systems [8M]
 b) Explain the constructional detail and working of KVIC Digester. [7M]
- Or
- 6 a) What are the different Bio-mass resources and what is the energy yield from each of them? [8M]
 b) Mention the characteristics of biogas? [7M]
- 7 a) Describe the closed cycle OTEC system? Mention its advantages over open cycle system [8M]
 b) What are the advantages and limitations of wave energy conversion [7M]
- Or
- 8 a) Explain with neat sketch the working principle of small hydro-Power station. [10M]
 b) What are difficulties in tidal power development? [5M]
- 9 a) Explain with neat sketch the working principle of fuel cell. [8M]
 b) Describe an MHD open cycle system with neat sketch. [7M]
- Or
- 10 a) Explain the principle of working of thermo-electric generator. [7M]
 b) What is the need for direct energy conversion system for generating power?