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Code No.:14111 AS N(B)

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
B.E. (CBCS) IV-Semester Advanced Supplementary Examinations, July-2019

Non-Conventional Energy Sources
(Open Elective-II)

Time: 2 hours

Max. Marks: 40

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Part-A (5 × 2 = 10 Marks)

1. Name any four non-conventional energy sources.
2. Define the terms i) solar irradiance ii) solar irradiation.
3. List the applications of geothermal energy.
4. Give the advantages and disadvantages of wind energy conversion systems.
5. What do you understand by earth's albedo?

Part-B (5 × 6 = 30 Marks)

- 6.a) Define biomass. [1]
b) Illustrate the biomass conversion technologies. [5]
- 7.a) Describe the construction and working of Alkaline fuel cell with chemical reactions. [4]
b) Compare H₂-O₂ fuel cell and Solid oxide electrolyte fuel cell. [2]
- 8.a) Classify solar collectors. [2]
b) With a neat schematic arrangement, explain the operation of liquid flat plate solar collector. [4]
- 9.a) Describe the nature of wind with reference to Beaufort scale. [2]
b) With a neat block diagram, explain the production of electricity from wind energy. [4]
- 10.a) Compare horizontal axis and vertical axis wind rotors. [2]
b) With neat layout and T-S diagrams, explain the operation of closed cycle OTEC. [4]
- 11.a) Explain the operation of double basin arrangement of tidal power plant. [3]
b) List the advantages and disadvantages of tidal power generation. [3]
- 12.a) Compare focus type and non-focus type solar collectors. [2]
b) With neat layout and T-S diagram, explain the vapour dominated geothermal power plant. [4]

