

Roll No.

Total No. of Pages : 02

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B.Tech. (CE/CSE/ECE/ME) (Sem.-6)  
**NON-CONVENTIONAL ENERGY RESOURCES**

Subject Code : BTME-615-18

M.Code : 79660

Date of Examination : 12-07-22

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

1. Write briefly :

- a) What is bio mass? In what form bio mass can be used?
- b) What is the principle of wind energy conversion?
- c) What is difference between fuel cell and primary battery?
- d) What are the factors affecting the feasibility of a tidal power plant?
- e) What do you understand by energy chain?
- f) What do you understand by greenhouse effect?
- g) Explain :
  - i) extraterrestrial radiation.
  - ii) solar constant.
- h) How classification of solar energy storage can be done?
  - i) What do you understand by solar still?
  - j) What are advantages and disadvantages of waves as source of energy?

## SECTION-B

2. Explain the principle of working of a solar pond.
3. Explain the working of a molten carbonate fuel cell using appropriate diagram and write the various chemical reactions involved in this type of fuel cell.
4. Explain the working of single basin and double basin tidal systems.
5. Describe the construction and working of any one type of wave energy conversion machine.
6. Discuss various methods of production of hydrogen for use as an energy carrier.

## SECTION-C

7. How solar PV systems can be classified? With the help of block diagrams, explain the operations of stand-alone and grid interactive solar PV systems.
8. In a hilly geographical region in India, a huge quantity of biomass is available round the year, but this area is highly deficient in electricity supply. Suggest the ways in which the biomass energy can be converted into electrical energy and substantiate your answer with a suitable diagram.
9. Describe the working of a wind power system with a neat sketch, including its various components.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**