

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**

**B.Tech. Summer 2018 - 19 Examination**

**Semester: 5****Subject Code: 03110302****Subject Name: Renewable Energy Sources****Date: 23/05/2019****Time: 10:30am to 01:00pm****Total Marks: 60****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Objective Type Questions - ( Fill in the blanks, one word answer, MCQ-not more than Five in case of MCQ) (All are compulsory) (Each of one mark) (15)**

1. Coal and Petroleum are example of ..... Energy.  
(A) Renewable (B) Non-renewable (C) A & B both (D) None
2. Updraft Gasifier also known as..... gasifier.  
(A) Co-current (B) Counter-current (C) Both (D) None
3. Which among the following is conventional energy source?  
(A) Solar energy (B) Wind energy (C) Geothermal energy (D) Petroleum
4. The wind turbines use the ..... energy of the wind and convert that energy into Mechanical Energy.  
(A) Chemical (B) Solar (C) Mechanical (D) kinetic
5. What is related to solar energy?  
(A) Solar Cell (B) hydro energy (C) A & B both (D) None
6. Enlist the types of gasifiers.
7. Enlist the renewable energy sources.
8. Classify the briquetting technologies.
9. Define gasification?
10. Write stages of anaerobic digestion.
11. Anemometer is used to measure solar radiation. (true/false)
12. Wind energy is a non-conventional energy source. (true/false)
13. Solar still is used for purification of water. (true/false)
14. The calorific value of biogas ranges from 5000 to 5500 Kcal/Kg. (true/false)
15. Solar PV Cell is made from silicon. (true/false)

**Q.2 Answer the following questions. (Attempt any three) (15)**

- A) What are the steps involved in the briquetting process? Explain them.
- B) Write down the advantages of biogas.
- C) Explain solar water heater.
- D) Describe flat plate collector.

**Q.3 (07)**

- A) What are the advantages of agro residual briquettes?
- B) Differentiate renewable and non-renewable sources. (08)

**OR**

- B) Explain floating drum biogas plant in detail. (08)

**Q.4 (07)**

- A) Enlist pyrolysis processes and explain them.

**OR**

- A) Explain biodiesel preparation process in detail. (07)
- B) Explain fixed dome biogas plant in detail. (08)