

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2017
(Sixth Semester)

Branch- PHYSICS

CORE ELECTIVE - II ALTERNATE ENERGY RESOURCES

Time: Three Hours

Maximum: 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1^ What is energy' chain? "
- 2 What is renewable energy resource?
- 3 What is beam radiation? . ■ ■ • ,
- 4 Write difference between active and passive space heating.
- 5 What is biomass?
- 6 What is digester?
- 7 Write the disadvantages of geo thermal energy resources.
- 8 What are the different components of wind mill?
- 9 Mention any four process used to produce hydrogen.
- 10 What is fuel cell?

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Explain the different types of primary energy sources based on usage.
OR
b Write any five points on significance of alternate energy resources.
- 12 a Describe the working of solar flat plate collectors. '
OR
b Write short notes on solar green house.
- 13 a Explain the process of photosynthesis. *
OR
b Write the applications of bio gas.
- 14 a s Explain the hot dry rock geothermal resource.
OR
b Explain the main components of vertical axis wind turbine. ,
- 15 a Explain the following process used to produce hydrogen.
(i) Thermo chemical' and (ii) Thermolysis of water.
OR
b Write the applications of fuel cells.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Write an essay on major classification on energy resources.
- 17 Describe in detail (i) Solar passive space heating and cooling system and (ii) Solar pond.
- 18 Discuss about various biomass conversion technologies.
- 19 Describe the construction and working of horizontal axis wind machine.
- 20 Describe various methods used to store hydrogen.