

Exam Date & Time: 30-Sep-2020 (10:00 AM - 01:45 PM)



PSG COLLEGE OF ARTS AND SCIENCE

Note: Writing 3hrs: Checking & Inserting Image : 30mins + Grace Time : 15mins

BSc DEGREE EXAMINATION MAY 2020
(Sixth Semester)

Branch - PHYSICS

CORE ELECTIVE - II - ALTERNATE ENERGY RESOURCES [14PHU23A]

Marks: 75

Duration: 225 mins.

SECTION A

Answer all the questions.

- 1) What is called energy chain? (2)
- 2) What are the major classifications of energy? (2)
- 3) Define solar constant. (2)
- 4) What is solar desalination? (2)
- 5) What is photosynthesis? (2)
- 6) Mention two advantages of bio gas generation. (2)
- 7) What are the sources of geothermal energy? (2)
- 8) State the principle of wind energy conversion. (2)
- 9) List two applications of hydrogen energy. (2)
- 10) What are the types of fuel cells? (2)

SECTION B

Answer all the questions.

- 11) Give an account of alternate energy sources and their significances. (5)
 - a) (5)
- [OR] What is the scope of alternative energy system in India? Explain. (5)
 - b) (5)
- 12) Explain the principle and working of solar collectors. (5)

- a)
[OR] How does a solar cooker work? Explain. (5)
b)
- 13) Briefly describe about the biogas generation plant. (5)
- a)
[OR] Explain the utilization of biogas. (5)
b)
- 14) What is geothermal energy? How can it be used? (5)
- a)
[OR] Explain the design and considerations of vertical axis wind machines. (5)
b)
- 15) Illustrate the utilization method of hydrogen. (5)
- a)
[OR] Describe the design, principle and operation of a fuel cell. (5)
b)

SECTION C

Answer 3 out of 5 questions.

- 16) Give a detailed account on the production and transfer of solar energy. Also explain the necessity of harvesting alternate energy resources. (10)
- 17) Compare and contrast the concentrating collectors and flat plate collectors. (10)
- 18) Explain about the constructional details and the site selection of biogas generation plant. (10)
- 19) Explain the components of a wind mill, their types and their constructional features. (10)
- 20) How hydrogen can be produced? Explain. (ii) Explain the storage method of hydrogen (10)

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