C 30316 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER B.A./B.Sc./B.Com./B.B.A. DEGREE EXAMINATION NOVEMBER 2017

(CUCBCSS—UG)

Open Course

PHY 5D 01 (1)—NON-CONVENTIONAL ENERGY SOURCES

Time : Two Hours Maximum : 40 Marks

Section A (One Word Answer)

Answer **all** *questions.*

Each question carries 1 *mark.*

1. In the extra-terrestrial radiation, the UV radiation content is about ——— percent.
2. The fundamental effect that is used in the conversion of solar energy to heat energy is ———.
3. ——— convert energy of the windstream to energy of rotation.
4. Which is the best resource for geothermal energy ?
5. The organic matter produced by terrestrial and aquatic plants and their derivatives is called ———.
6. ——— is a periodic rise and fall of the water level of the sea, which is carried by the action of the sun and the moon on the water of the earth.

(6 × 1 = 6 marks)

Section B (Short Answer)

In one **or** *two sentences.*

Answer **all** *questions.*

Each question carries 2 *marks.*

7. What do you mean by solar constant ?
8. What is the working principle of a solar cooker ?
9. What are the factors that determine the output from a wind energy converter ?
10. List any *two* advantages of geothermal energy.
11. Give an example each for a primary and a secondary battery.

(5 × 2 = 10 marks)

Turn over

Section C (Paragraph Answer)

Answer any **four** *questions.*
Each question carries 4 *marks.*

12. Discuss the essential parts of a flat plate collector.
13. List the advantages and disadvantages of a solar cell over other conventional options.
14. Draw the schematic of a horizontal axis type wind mill and explain the parts.
15. Write short note on gaseous biofuels.
16. Discuss the wave energy conversion mechanism by floats.
17. Explain briefly the open cycle ocean thermal electric power generation.

(4 × 4 = 16 marks)

Section D (Essays)

Answer any **one** *questions.*
The question carries 8 *marks.*

18. Using a neat diagram explain the working principle of a solar distillation system. Discuss the applications of solar distillation systems.
19. Explain briefly the different geothermal sources of energy.
20. Discuss the basic principles of tidal power generation.

(1 × 8 = 8 marks)