TED (10) – 5034

(REVISION — 2010)

Reg. No. .....

Signature .....

FIFTH SEMESTER DIPLOMA EXAMINATION IN ELECTRICAL AND ELECTRONICS ENGINEERING — MARCH, 2016

RENEWABLE ENERGY SOURCES

[*Time* : 3 hours

(Maximum marks : 100)

PART— A

(Maximum marks : 10)

Marks

I Answer all questions in one or two sentences. Each question carries 2 marks.

1. List any for non-conventional energy.
2. Write down the functions of reflector type solar cooker.
3. Name two basic types of wind turbines.
4. Name two bio-gas plant used in our country.
5. State the application of small Hydro Project. (5×2=10)

PART — B

(Maximum marks : 30)

II Answer *any five* of the following questions. Each question carries 6 marks.

1. Briefly describe conventional energy sources.
2. Discuss the effect and future impact of global warming.
3. Explain the basic photo volatise system of power generation.
4. Explain two instrument used for solar radiation measurement.
5. Explain the major components of a tidal power plant.
6. How biogas plants are classified ? Explain them briefly.
7. Give conversion efficiency and application of fuel cells. (5×6=30)

Marks

PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

UNIT—I

III (a) With the aid of sketch explain the working principle of MHD generator. 8

(b) What are the advantage and limitation of renuable energy sources ? 7

OR

IV (a) Which type non-conventional energy source is best suitable for agriculture and rural application and why ? Explain. 8

(b) With a neat sketch explain the working of a solar refrigerator. 7

UNIT—II

V (a) State the advantages and disadvantages of photovoltaic cell. 8

(b) Explain horizontal axis wind mill. 7

OR

VI (a) Explain the working of pyrheliometer with a neat sketch. 8

(b) Explain photovoltaic effect. 7

UNIT—III

VII (a) Write materials used for biogas generator. List the important uses of biogas plant. 8

(b) With a neat sketch explain floating gas holder type biogas plant. 7

OR

VIII (a) Explain the wave energy convection by floats. 8

(b) Write short notes on :

(i) Ocean Thermal Energy (ii) Biomass. 7

UNIT—IV

IX (a) Explain the classification of Small Hydel Project (SHP). 8

(b) Draw a neat sketch of hydrogen fuel cell and explain its working. 7

OR

X (a) Briefly explain Bulb or tubular turbine. 8

(b) What are the factors considered while selecting the site for Small Hydel Project (SHP). 7