

(DEE 313)

B.Tech. DEGREE EXAMINATION, MAY - 2015

(Examination at the end of Third Year)

ELECTRICALS AND ELECTRONICS

Paper - III : Generation Of Electrical Power

Time : 3 Hours

Maximum Marks : 75

Answer question No.1 compulsory

(15)

Answer any ONE question from each unit

(4 × 15 = 60)

- 1) a) What are the types of fuels used in thermal power plants?
- b) What is the fire tube boiler?
- c) What is “feed water”?
- d) Discuss the merits of BWR (Boiler Water Reactor)
- e) What is the importance of solar power in the present energy crisis in the world?
- f) Discuss the advantages of wind energy.
- g) What is a surge tank?
- h) What is concentrating solar energy collector?
- i) What is the disadvantage of low power factor?
- j) What is CANDU reactor?
- k) What is meant by mass curves?
- l) What are the main types of OTEC power plants?
- m) What is meant by depreciation of a power station?

- n) What are the various types of tariffs in common use?
- o) What is meant by tariff?

UNIT – I

- 2) Draw a typical layout of a thermal power plant and describe the functions of the following Components
- a) Coal and ash handling plant
 - b) Steam generating plant
 - c) Steam turbine
 - d) Feed water circuit
 - e) Cooling towers

OR

- 3) a) What are the types of steam turbine? Briefly discuss about their use and characteristics.
b) What is “feed water”? What are the problems due to impurities in fuel water? How they can be eliminated?

UNIT - II

- 4) What are the methods of producing nuclear reaction? What is chain reaction?

OR

- 5) Draw the layout of hydro power station and discuss it's generation.

UNIT - III

- 6) a) Explain the different methods of solar energy storage.
b) Explain wind power battery charges.

OR

- 7) Discuss the advantages and disadvantages of horizontal and vertical axis wind mills with neat sketches.

UNIT - IV

- 8) Define the following terms for generating station :

- a) Load factor
- b) Utilization factor
- c) Load curves

OR

- 9) Explain what is meant by ‘two part tariff and give the economic basis for adopting such a tariff.

