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Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 50496

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017
Eighth Semester
Electrical and Electronics Engineering
EE 6801 : ELECTRIC ENERGY GENERATION, UTILIZATION AND CONSERVATION
(Regulations 2013)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A (10×2=20 Marks)

1. List the advantages and disadvantages of electric traction.
2. Define gear ratio.
3. Why tungsten is selected as the filament material ?
4. Define the term MSCP and lamp efficiency.
5. State the requirements of a good heating material.
6. Differentiate between core type and coreless type induction furnace.
7. Define collector efficiency.
8. List the advantage of solar concentrators.
9. What are the causes of aerodynamic force ?
10. List the factors responsible for distribution of wind energy on the surface of earth.

PART – B (5×16=80 Marks)

11. a) i) Describe the mechanism of train movement with the aid of transmission of tractive effort. (8)

ii) Discuss in detail about series-parallel control of electric traction motor with example. (8)

(OR)

b) Explain in detail about different methods of traction motor control. (16)

12. a) i) Explain in detail the principle of operation of fluorescent lamp. (8)

ii) Describe and prove laws of illumination. (8)

(OR)

b) Two street lamps are 20m apart and are fitted with a 500 C.P. lamp at a height of 8m above the ground each. Calculate the illumination at a point under each lamp and midway between the lamps. (16)

13. a) i) Describe the construction and working principle of dielectric heating. (8)

ii) Explain the principle and working of welding transformer. (8)

(OR)

b) Describe different types of arc welding with neat diagram. (16)

14. a) Explain the operation of solar cell using equivalent circuit and I-V characteristics. (16)

(OR)

b) Discuss in detail about the performance of cylindrical and parabolic concentrating collector. (16)

15. a) Explain the construction and operation of VAWT with its advantages and disadvantages. (16)

(OR)

b) Describe the functions of various blocks of a WECS with the help of block diagram. (16)
