Industrial electrical system-2

Question Bank

1. State the laws of illumination.
2. Compare carbon arc and metal arc welding.
3. List eight desirable characteristics of traction motors.
4. State the types and application of different drives
5. Define and state the unit of following terms.
6. Luminous flux
7. Luminous intensity
8. Illumination

(6) A consumer draws 500kW power steadily at 0.7 p.f. lagging for 3650 hours per annum. The tariff is

Rs. 1300 per KVA of MD per annum plus Rs 1.0 per Kwh. The annual cost of phase advancing plant is

Rs.150 per KVAR. Find the annual saving if the power factor improved

7. List six factors while designing a lighting scheme.

8. Classify electric welding.

9. List the types and essential features of elevator machines.

10. Compare Rheostatic and regenerative braking.

11.Suggest suitable electric drive for following applications:

(i) Paper mills

(ii) Stone crusher

(iii) Textile mills

(iv) Electric traction

12. State four advantages and disadvantages of CFL.

13. State advantages and applications of dielectric heating.

14. List different means of transmitting power in machines.

15. Draw curve and estimate suitable HP of motor having following

duty cycle:

(i) Rising load from 200 to 400 HP - 4min.

(ii) Uniform load of 300 HP - 2min.

(iii) Regenerative braking from 50 to zero - 1 min and

(iv) idle for - 1minute

16. State the requirements of ideal traction system

17. State the principle and applications of eddy current heating.

18. State the function and types of enclosures provided to

machines.

19. Compare AC and DC system of track electrification.

20. List the objectives and types of tariff.

21. A Hall of 40ft by 50ft is to be illuminated to 45 lumen per sq ft. on working plane. If UF is 0.6 and DF is 0.8 and source gives an output 10 lumen per watt, determine the no. of lamps.

22. The distance between two stations is 2KM. It is desired to have scheduled speed of 40 km/hr with duration of stop of 20 seconds. Assuming, trapezoidal speed time curve, calculate:

(1) The maximum speed required when the acceleration

is to be limited to 1.2 km/hr/sec and braking

retardation to 3km/hr/sec.

(2) The distance covered during acceleration and

retardation.

23. Compare DC welding and AC welding.

24 State the necessity and principle of load equalisation.

25 Define coefficient of adhesion, state the factors affecting it.

26 List six energy conservation measures adopted in electric

motors.

27 Draw and explain the working of core type of furnace.

28 State any four advantages of high power factor for electric supply company.

29. List six factors deciding selection of electric welding system.

30. List six factors while selecting an elevator.

31. Draw label and state the meaning of each term in speed

time curve of traction system.

d) Compare two part and three part system of tariff.

e) Draw diagram and explain the thyristor control method used

in traction.