

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL/MAY 2005

Branch : Electrical Equipment Maintenance (Vocational Course)

UTILISATION OF ELECTRICAL ENERGY—II

Time : Three Hours

Maximum : 60 Marks

Part I

*Answer any two questions.
Each question carries 10 marks.*

1. (a) What are the various operations involved in electroplating an article.
(b) Explain electrolytic refining of an impure metal.
2. (a) How the cooling capacity of an air conditioner measured ?
(b) Write brief note on :—
 - (a) Starting capacitor.
 - (b) Thermostat.
3. Discuss methods of plugging as applied to :
 - (a) DC shunt motor.
 - (b) DC series motor.
 - (c) Induction motor.

(2 × 10 = 20 marks)

Part II

*Answer any eight questions.
Each question carries 5 marks.*

4. Define "throwing power" of an electrolyte. Discuss the effect of adding additional agents to an electrolyte.
5. Define :
 - (i) Current efficiency.
 - (ii) Energy efficiency.
6. Explain anodizing and its applications.
7. Draw a neat electric unit of an air conditioning unit.
8. (a) What are the aims of a good A.C. system ?
(b) Describe the working of a room air conditioner.
9. (a) What is an electric drive ?
(b) What are its advantages ?

10. Compare a group drive and an individual drive.
11. What are the various motors used for :
 - (a) Rolling mills.
 - (b) Cranes.
 - (c) Printing machines.
 - (d) Pumps.
 - (e) Mixi.
12. Explain the working of :
 - (a) Electric cooking range.
 - (b) Hot air circulator.
13. Explain the function of the following in a refrigeration system.
 - (a) Motor winding relays.
 - (b) Refrigerant.
14. Explain the following terms in the context of electric drives.
 - (a) Load torques.
 - (b) Stability.
 - (c) Duty cycle.
 - (d) Pulsating loads.
 - (e) Impact loads.
15. Explain how energy audit helps in the conservation of energy in a factory.