



2nd Class • Electricity and Refrigeration

# **PART B3**

## ***End of Chapter Answer Guide: Numerical Answers***





## CHAPTER 1 - ALTERNATING CURRENT THEORY

1. vertical component = 0.707
4. 120.19 V
7. 15.71 ohms
8. 0.9
10. a) 220 V  
b) 138.40 A  
c) 52.68 kVA  
d) 39.51 kW



## CHAPTER 2 - DIRECT CURRENT MACHINES

7. 8.3%

13. 83.07%



## CHAPTER 4 - ALTERNATING CURRENT MOTORS

4. 1800 rpm



## CHAPTER 5 - TRANSFORMERS

3. 76.92 A
4. 112.5 kVa
5. 13 800 V
14. 3.75 amps



## CHAPTER 6 - ELECTRICAL SYSTEM PROTECTION

6. 200 000 A
8. 0.0083 seconds
19. 4 A



## CHAPTER 10 - REFRIGERATION CALCULATIONS

4. a) 6.77 tonnes/day  
b) 5.15 tonnes ice/day
5. a) 1366.16 kJ/kg  
b) 219.33 kJ/kg  
c) 1146.83 kJ/kg  
d) 5.23  
e) 0.203 kg/min/tonne  
f) 0.742 kW/tonne