

Section 1 Revision of Some Basic Mathematics

1. Some Mathematics Revision

2. Further Mathematics Revision

Section 2 Basic Electrical and Electronic Engineering Principles

3. Units associated with basic electrical quantities

4. An introduction to electric circuits

5. Resistance variation

6. Batteries and alternative sources of energy

7. Series and parallel networks

8. Capacitors and capacitance

9. Magnetic circuits

10. Electromagnetism

11. Electromagnetic induction

12. Electrical measuring instruments and measurements

13. Semiconductor diodes

14. Transistors

Section 3 Further Electrical and Electronic Principles

15. D.c. circuit theory

16. Alternating voltages and currents

17. Single-phase series a.c. circuits

18. Single-phase parallel a.c. circuits

19. Filter networks

20. D.c. transients

21. Operational amplifiers

Section 4 Further Electrical Power Technology

22. Global climate change and the future of electricity generation

23. Three-phase systems

24. Transformers

25. D.c. machines

26. Three-phase induction motors

Answers to Practice Exercises