# Answers

# Chapter 1

- 1. (i)
- 2. (d)
- 3. (a)

### Chapter 2

- 1. (d)
- 2. (b)
- 3. (d)
- 4. (c)

### Chapter 3

- 1. (d)
- 2. (c)
- 3. (a)
- 4. (c)

### Chapter 4

- 1. (b)
- 2. (c)
- 3. (b)

### Chapter 5

- 1. (c)
- 2. (b)

### Chapter 6

- 1. (c)
- 2. (a)
- 3. (d)
- 4. (b)

### Chapter 7

- 1. (d)
- 2. (b)
- 3. (d)

# Chapter 8

- 1. (b)
- 2. (c)
- 3. (d)

### **Chapter 9**

- 1. (c)
- 2. (d)
- 3. (a)

### Chapter 10

- 1. (d)
- 2. (d)
- 3. (b)

- 4. (a)
- 5. (d)
- 6. (c)
- 7. Distance less than 15 cm; virtual; Enlarged.
- 9. Yes
- 10. 16.7 cm from the lens on the other side; 3.3 cm, reduced; real, inverted.
- 11. 30 cm
- 12. 6.0 cm, behind the mirror; virtual, erect
- 13. m = 1 indicates that image formed by a plane mirror is of the same size as the object. Further, the positive sign of m indicates that the image is virtual and erect.
- 14. 8.6 cm, behind the mirror; virtual, erect; 2.2 cm, reduced.
- 15. 54 cm on the object side; 14 cm, magnified; real, inverted.
- 16. -0.50 m; concave lens
- 17. + 0.67 m; converging lens

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# Chapter 11

- 1. (b) 2. (d) 3. (c)
- 5. (i) -0.18 m; (ii) +0.67 m
- 6. Concave lens; -1.25 D
- 7. Convex lens; +3.0 D

### Chapter 12

- 1. (d) 2. (b) 3. (d) 4. (c)
- 5. Parallel 6. 122.7 m; ¼ times
- 7. 3.33  $\Omega$  8. 4.8  $k\Omega$  9. 0.67 A
- 10. 4 resistors 12. 110 bulbs
- 13. 9.2 A, 4.6 A, 18.3 A
- 14. (i) 8 W; (ii) 8 W
- 15. 0.73 A
- 16. 250 W TV set in 1 hour
- 17. 120 W
- 18. (b) High resistivity of alloys (d) inversely.

# Chapter 13

- 1. (d) 2. (c) 3. (a) 4. (d) 5. (c)
- 6. (a) False (b) True (c) True (d) False
- 10. vertically downwards
- 13. (i) The needle will move momentarily in one direction
  - (ii) The needle will move momentarily but in opposite direction to (i)

4. (c)

- (iii) No deflection in the needle would be observed.
- 15. (a) Right-hand thumb rule, (b) Fleming's left-hand rule, (c) Fleming's right-hand rule.

#### Chapter 14

1. (b) 2. (c) 3. (c)

## Chapter 15

1. (a), (c), (d) 2. (b) 3. (d)

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