
Answers

Chapter 3

4. (a) MgCl_2
(b) CaO
(c) $\text{Cu}(\text{NO}_3)_2$
(d) AlCl_3
(e) CaCO_3
5. (a) Calcium, oxygen
(b) Hydrogen, bromine
(c) Sodium, hydrogen, carbon and oxygen
(d) Potassium, sulphur and oxygen
6. (a) 26 g
(b) 256 g
(c) 124 g
(d) 36.5 g
(e) 63 g

Chapter 4

10. 80,006
11. $\frac{10}{8} = 90\%$, $\frac{10}{8} = 10\%$
12. Valency = 1, Name of the element is lithium.
13. Mass number of X = 12, Y = 14, Relationship is Isotope.
14. (a) F (b) F (c) T (d) F
15. (a) ✓ (b) × (c) × (d) ×
16. (a) × (b) × (c) ✓ (d) ×
17. (a) × (b) ✓ (c) × (d) ×
18. (a) × (b) × (c) × (d) ✓

Atomic Number	Mass Number	Number of Neutrons	Number of Protons	Number of Electrons	Name of the Atomic Species
9	19	10	9	9	Fluorine
16	32	16	16	16	Sulphur
12	24	12	12	12	Magnesium
01	2	01	1	01	Deuterium
01	1	0	1	0	Protium

Chapter 7

- (a) distance = 2200 m; displacement = 200 m
- (a) average speed = average velocity = 2.00 m s^{-1}
(b) average speed = 1.90 m s^{-1} ; average velocity = 0.952 m s^{-1}
- average speed = 24 km h^{-1}
- distance travelled = 96 m
- velocity = 20 m s^{-1} ; time = 2 s
- speed = 3.07 km s^{-1}

Chapter 8

- c
- 2 m s^{-2} ; 14000 N
- 4 N
- (a) 35000 N
(b) 1.944 m s^{-2}
- 2550 N in a direction opposite to the motion of the vehicle
- d
- 200 N
- 3 kg m s^{-1}
- 2.25 m; 50 N
- 10 kg m s^{-1} ; 10 kg m s^{-1} ; $5/3 \text{ m s}^{-2}$
- 500 kg m s^{-1} ; 800 kg m s^{-1} ; 50 N
- 40 kg m s^{-1}
- A2: 240 N
- A3: 2500 N
- A4: 5 m s^{-2} ; $24000 \text{ kg m s}^{-2}$; 8000 N

Chapter 9

3. 9.8 N
12. Weight on earth is 98 N and on moon is 16.3 N.
13. Maximum height is 122.5 m and total time is $5\text{ s} + 5\text{ s} = 10\text{ s}$
14. 19.6 m/s
15. Maximum height = 80 m. Net displacement = 0. Total distance covered = 160 m.
16. Gravitational force = $3.56 \times 10^{22}\text{ N}$
17. 4 s, 80 m from the top.
18. Initial velocity = 29.4 m s^{-1} , height = 44.1 m. After 4 s the ball will be at a distance of 4.9 m from the top or 39.2 m from the bottom.
21. The substance will sink.
22. The packet will sink. The mass of water displaced is 350 g.

Chapter 10

2. Zero
4. -210 J
5. Zero
9. $9 \times 10^3\text{ J}$
10. 2000 J , 1000 J
11. Zero
14. $5.4 \times 10^3\text{ J}$
17. 208333.3 J
18. (i) Zero
(ii) Positive
(iii) Negative
20. $7.2 \times 10^3\text{ J}$

Chapter 11

7. 17.2 m, 0.0172 m
8. 18.55
9. 6000
13. 11.47 s
14. 22,600 Hz