

$$12 + 3 + 12 + 16 + 16 + 1 = 60 \text{ amu}$$

Q41. How many atoms of sodium are present in 3 moles of sodium and what is the mass of it?

Ans. No. of atoms of sodium are present in 3 moles =  $3 \times 6.02 \times 10^{23}$   
 $= 1.806 \times 10^{24}$

The mass of 3 moles of sodium is = 69g

## Multiple Choice Questions

1. Industrial chemistry deals with the manufacturing of compounds:

- (a) in the laboratory
- (b) on micro scale
- (c) on commercial scale
- (d) on economic scale

2. Which one of the following can be separated by physical means?

- (a) Mixture
- (b) Element
- (c) Compound
- (d) Radical

3. The most abundant element occurs in the oceans is:

- (a) Oxygen
- (b) Hydrogen
- (c) Nitrogen
- (d) Silicon

4. Which one of the following element is found in most abundance in the earth's crust?

- (a) Oxygen
- (b) Aluminium
- (c) Silicon
- (d) Iron

5. The third abundant gas found in the earth's crust is:

- (a) Carbon monoxide
- (b) Oxygen
- (c) Nitrogen
- (d) Argon

6. One amu (atomic mass unit) is equivalent to:

(a)  $1.66 \times 10^{-24}$  mg (b) 1.66

(c)  $1.66 \times 10^{-24}$  kg (d)  $1.66 \times 10^{-23}$  g

7. Which of the following are triatomic molecule except:

- (a)  $\text{H}_2$
- (b)  $\text{O}_3$
- (c)  $\text{H}_2\text{O}$
- (d)  $\text{CO}_2$

8. The mass of one molecule of water is:

- (a) 18 amu
- (b) 18 g
- (c) 18 mg
- (d) 18 kg

9. The molar mass of  $\text{H}_2\text{SO}_4$  is:

- (a) 98g
- (b) 98 amu
- (c) 9.8g
- (d) 9.8 amu

10. Molar mass is usually expressed in grams.

Which one of the following is molar mass of  $\text{O}_2$  in amu?

- (a) 32 amu
- (b)  $53.12 \times 10^{-24}$  amu
- (c)  $1.92 \times 10^{-25}$  amu
- (d)  $192.64 \times 10^{-25}$  amu

II. How many numbers of moles are equivalent to 8 grams of  $\text{CO}_2$ ?

- (a) 0.15
- (b) 0.18

(e) 0.21 (d) 0.24 12. Which one of the following pair

has the same number of ions?

(a) 1 mole of NaCl and 1 mole of MgCl<sub>2</sub> (b) 1/2 mole of NaCl and 1/2 mole of MgCl<sub>2</sub>

(c) 1/2 mole of NaCl and 1/3 mole of MgCl<sub>2</sub> (d) 1/3 mole of NaCl and 1/2 mole of MgCl<sub>2</sub>

13. Which one of the following pair has the same mass?

(a) 1 mole of CO and 1 mole of N<sub>2</sub>  
(b) 1 mole of CO and 1 mole of CO<sub>2</sub>  
(c) 1 mole of O<sub>2</sub> and 1 mole of N<sub>2</sub>  
(d) 1 mole of O<sub>2</sub> and 1 mole of CO

14. The valency of noble gases is (a) Three (b) Zero

(c) Two (d) One.

15. Structure of atom is studied in which branch of chemistry?

(a) Organic (b) Physical  
(c) Inorganic (d) Nuclear  
16. Nuclear Chemistry has application in

(a) Medical treatment  
(b) Ecology (c) Metallurgy  
(d) Agriculture

17. Which one is a physical property?

(a) Smell (b) Taste  
(c) Hardness (d) All of these

18. Elements may be

(a) Solid (b) Liquid

(c) Gas (d) All of these

19. Valency of carbon is

20. 80 percent elements are

(a) Metals (b) Non-metals  
(c) Metalloids (d) None

21. Valency of oxygen is

22. The ratio of carbon and oxygen in CO<sub>2</sub> is

23. Brass is a mixture of  
(a) Zn (b) Cu & Sn

24. Mixture can be separated by method

(a) Nuclear (b) Chemical

(c) Physical (d) All of these

25. Number of protons in the nucleus of an atom is called

(a) Mass no. (b) Atomic no.

(c) Electron no. (d) Mass Unit

26. Empirical formula of sand is

(a) SiO<sub>3</sub> (b) SiO<sub>2</sub>

(c) SiO<sub>4</sub> (d) Si<sub>2</sub>O<sub>3</sub> 27.

Which compound has same molecular and empirical formula?

- (a) C<sub>6</sub>H<sub>12</sub>O<sub>6</sub> (b)  
(c) H<sub>2</sub>O (d) 1·120

28. Atom is electrically

- (a) Positive (b) Negative  
(c) Neutral (d) None

29. Which one is extremely reactive species?

(d) CH<sub>3</sub>

30. Fourth state of matter is

- (a) Solid (b) Liquid  
(c) Gas (d) Plasma

31. Example of mono atomic molecule is

- (b) O<sub>2</sub>  
(c) CO<sub>2</sub> (d) He

32. Which one is polyatomic molecule?

- (a) CH<sub>4</sub> (b) H<sub>2</sub>SO<sub>4</sub>  
(c) C<sub>6</sub>H<sub>12</sub>O<sub>6</sub> (d) All of these

33. 1 gram formula of NaCl contains grams

- (a) 100g (b) 32g  
(c) 58.5g (d) 49g

34. 1 gram atom of carbon contains how many moles

- (a) 2 mole (b) 12mole  
mole (d) 6 moles

35. Value of Avogadro's number is

(c)  $6.6 \times 10^{-20}$

36. Empirical formula of glucose is

- (a) CH<sub>2</sub>O (b) CHO  
(c) CH<sub>2</sub>O

37. How many atoms are present in one gram atomic mass of a substance

- (a)  $10^{24}$  (b)  $12.04 \times 10^{23}$   
(c)  $10^{23}$  (d)  $6.2 \times 10^{23}$

38. 40g of H<sub>3</sub>PO<sub>4</sub> contains number of moles

- (a) 0.58g (b) 0.408g

(c) 4.8g (d) 5.8g 39. Formation of which of the following is effected by light:

- (a) Ion (b) Free Radical

(c) Molecule (d) Atom 40. Which type of molecular ions are present in plasma?

- (a) Cationic (b) Anionic  
(c) Both a & b (d) Neutral

41. Percentage of Argon in nature is

- (a) 87% (b)  
(c) 0.9% (d)

42. Formula mass of K<sub>2</sub>SO<sub>4</sub> is

- (a) 174amu (b) 180amu  
(c) 110amu (d) 145amu

43. Empirical formula of acetic acid (CH<sub>3</sub>COOH) is

- (a) CHO (b) CH<sub>2</sub>O  
(c) CH (d) None of these

44. Mass of 3 moles of oxygen atoms

- (a) 48g (b) 32g

(c) 64g (d) 16g 45. How many molecules of water will be present in half mole of water?

(c) (d)  $1.66 \times 10^{24}$

46. How many atoms are present in one gram atomic mass of a substance?

(a) (b)  $1.66 \times 10^{24}$   
(d) None of these

47. A piece of matter in pure form is termed as

(a) Element (b) Substance  
(c) mixture (d) matter

48. Which one of following is an example of ionic compound?

(a)  $H_2O$  (b)  $CH_4$

(c)  $MCl$  (d)  $HCl$

49. Example of covalent compound is

(a)  $KNO_3$  (b)  $NaCl$

(c)  $KCl$  (d)  $HCl$

50. Example of heterogeneous mixture

is

(a) Air (b) gasoline  
(c) ice cream (d) soil

## Answer Key

1.	c	2.	a	3.	a	4.	a	5.	
6.	b	7.	a	8.	a	9.	a	10.	b
11.	b	12.	c	13.	a		b	15.	b
						19.	d	20.	a
31.	d	32.	d	33.			c		
36.	a	37.	c	38.	b	39.	b	40.	
41.	c	42.	a	43.	b	44.	a	45.	b
46.	a	47.	b	48.	c	49.	d	50.	d