CHEMISTRY

BOOKS - ARIHANT PUBLICATION JHARKHAND

ELEMENTS, MIXTURES AND COMPOUNDS

Exam Booster For Cracking Exam

1. Magnesium is present in

A. haemoglobin

B. chlorophyll

C. vitamin B_{12}

D. ascorbic acid

Answer: B

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2. The metallic core of lithosphere is called

A. atmophil

B. siderophil

C. lithophil

D. anenophilt

Answer: B

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3. Which one of the following elements is used as a catalyst in the dehydration of vegetable oils?

A. Pt

B. Na

C. Ru

D. P

Answer: A

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4. An element which is not found in nature is

A. Pt

B. K

C. Zn

D. Pm

Answer: D

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5. An azeotropic mixture is a mixture which has

A. constant boillng point

B. all components have different boiling

points

C. maximum amount of components

D. None of the above

Answer: A

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6. LPG (Liquified Petroleum Gas) is a

A. mixture

B. compound

C. element

D. None of these

Answer: A

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7. A mixture of red and blue ink can be separated by

A. Distillation

B. Crystallisation

C. Chromatography

D. Sublimation

Answer: C

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8. Solution of $CaCO_3$, in water forms a

A. homogeneous mixture

B. heterogeneous mixture

C. azeotropic mixture

D. None of these

Answer: B

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9. Which one of the following is the most abundant metallic element?

A. Aluminium

B. Iron

C. Gold

D. Silver

Answer: A

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10. Barium carbonate is alan

A. compound

B. mixture

C. element

D. alloy

Answer: A

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11. The most abundant gas is

    A. nitrogen
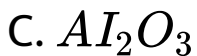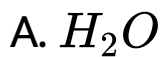
    B. oxygen

    C. hellum

    D. carbon dioxide

Answer: A

12. Which one of the following is the most abundant compound?

A. H_2O

B. SIO_2

C. AI_2O_3

D. Air

Answer: A

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13. Metal which is present in liquid state at room temperature is

A. Hg

B. Ga

C. (a) and (b)

D. None of these

Answer: C

14. Which one is gas at room temperature?

A. CI_2

B. Br_2

C. l_2

D. (a) and (b)

Answer: A

15. German silver is an

A. element

B. mixture

C. alloy

D. compound

Answer: C

16. First organic compound which was prepared in laboratory is

A. methane

B. urea

C. formaldehyde

D. water

Answer: B

17. Who prepared first organic compo nd in laboratory?

A. Dalton

B. Wohler

C. Kolb

D. Berthelot

Answer: B

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18. I_2 in water is extracted with the help of

A. chloroform

B. carbon tetrachloride

C. carbon disulphide

D. All of these

Answer: D

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19. Which one of the following is a compound?

A. Glass

B. Water gas

C. CNG

D. Plaster of Paris

Answer: D

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20. Which one of the following is not separated by sublimation?

A. Corrosive sublimate

B. Calomel

C. $CuSO4_4$

D. (a) and (b)

Answer: D

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21. Ozone is alan

A. element

B. mixture

C. allotrope

D. None of these

Answer: C

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22. What is the relation between energy and mass?

A. $E = m^2 C$

B. $E = m^2/C$

C. $E = m^2c^2$

D. $E = mc^2$

Answer: D

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23. Select the false statement

A. Ozone is a compound

B. A solution is a homogeneous mixture

C. Equivalent weight of CO_3^{2-} Ion is M/2.

D. Total mass of a system does not change during a chemical reaction.
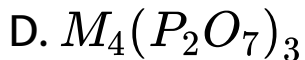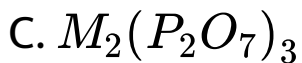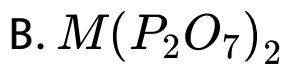
Answer: A

24. Formula of nitrate of a metal is M $(NO_3)_3$ the formula of its pyrophosphate is

A. $M_3(P_2O_7)_4$

B. $M(P_2O_7)_2$

C. $M_2(P_2O_7)_3$

D. $M_4(P_2O_7)_3$

Answer: D

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25. Which of the following is a compound?

A. Ozone

B. Marble

C. Diamond

D. Quick silver

Answer: B

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26. Which of the following is an element?

A. Silica

B. Glass

C. Water gas

D. Magneslum

Answer: D

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27. Water is compound because

A. It exists as solid, liquid or gas

B. It contains hydrogen and oxygen

C. it contains two different elements joined

by chemical bonds

D. It can be split up into simpler substance

by chemical means

Answer: C

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28. Which of the following is neither an element nor a compound?

A. Air

B. Water

C. Mercury

D. Sodium chloride

Answer: A

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29. Impurities in water

A. decreases BP of water

B. Increases BP of water

C. increases freezing point

D. None of these

Answer: B

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30. Which of the following sublimes?

A. Sulphur

B. Coal

C. Ammonium chloride

D. Ice

Answer: C

31. On heating 200 g $CaCO_3$, CaO is obtained which will react with how much gram of water to obtain $Ca(OH)_2$?

A. 200 g

B. 112 g

C. 36 g

D. 40 g

Answer: C

32. Some zinc sulphate crystals are heated to a constant weight and following results are obtained (Zn = 65, S = 32,O = 16, H =1)

Weight of crucible = 20g

Weight of crucible + crystals = 25.74 g

Weight of crucible + residue = 23.22 g

What is the value of the x in the formula $ZnSO_4 . xH_2O$?

A. 7

B. 2

C. 3

D. None of these

Answer: A

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33. The percentage of zinc in $ZnSO_4 . 7H_2O$ is

(Zn = 65, S = 32, O = 16 H= 1)

A. 23

B. 13

C. 17

D. 33

Answer: A

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34. Dil. HNO_3 , contains 20% acid and it dissolves 10 g $CaCO_3$. The quantity of acid is

A. 315g

B. 63 g

C. 50 g

D. 12.6 g

Answer: B

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35. In a gas there are two hydrogen atoms for each carbon atom. If the density of gas at NTP is 1.25g/L the molecular formula of the gas is

A. CH_2

B. CH_4

C. C_2H_4

D. None of these

Answer: C

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36. In an experiment lead oxide is heated with

H, to get

Pb. Following data are obtained

Wt. of crucible = 10.20 g

Wt. of crucible + lead oxide = 17.37 g

Wt. of crucible + lead = 16.41 g

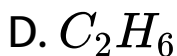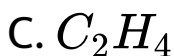Atomic weight of Pb = 207

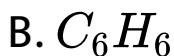The formula of oxide is

A. PbO

B. PbO_2

C. Pb_3O_4

D. None of these

Answer: B

37. A hydrocarbon contains 80% carbon. The weight of dm^3 gas at NTP is 1.35. The molecular formula of the compound is

A. CH_4

B. C_6H_6

C. C_2H_4

D. C_2H_6

Answer: A

38. 21.75 g MnO_2 is heated with HCl. The volume of Cl_2 obtained at NTP will be **(Mn= 55, O- 16, C1= 35.5, H= 1)**
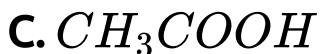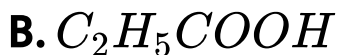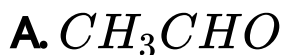
    A. 2.8L

    B. 5.6 L

    C. 11.2L

    D. None of these

Answer: B

39. The percentage composition of a compound is C= 48.65%, H= 8.12%, O= 43.23%. Its molecular weight is 74. The molecular formula of the compound is

A. CH_3CHO

B. C_2H_5COOH

C. CH_3COOH

D. None of these

Answer: B

40. 0.2 g of an organic compound containing C, H and 0, gave on combustion 0.04 g water and 0.195 g CO_2 . The percentage of oxygen is

A. 26.06

B. 30.59

C. 71.8

D. None of these

Answer: C

41. 13.5 g water on electrolysis will give O_2 , at NTP

A. 4.2L

B. 6.2L

C. 16.8L

D. 8.4

Answer: D

42. The molecular weight of anhydrous substance is 64 and of crystalline form is 100. The number of molecules of water of crystallisation will be
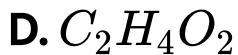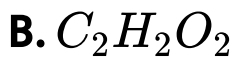
A. 1

B. 2

C. 4

D. 16

Answer: B

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43. The percentage composition of a compound C= 40.6%, H=6.66%, O= 52.0%. If vapour density of the compound is 30, the molecular formula will be

A. CHO

B. $C_2H_2O_2$

C. CH_2O

D. $C_2H_4O_2$

Answer: D

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44. How much $CaCO_3$ will give 2.2 g CO_2?

A. 10 g

B. 50 g

C. 5 g
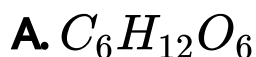
D. 15 g

Answer: C

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45. An organic compound contains C= 32% H=4%, 0 = 64%. The molecular formula is

A. $C_6H_{12}O_6$

B. $C_4H_6O_6$

C. $C_4H_4O_6$

D. None of these

Answer: B

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46. 7 g copper is heated with conc. H_2SO_4 . The volume of SO_2 obtained at NTP is

A. 64 L

B. 23 L

C. 22.4L

D. 2.5L

Answer: D

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47. The percentage of water in $CuSO_4 . 5H_2O$ is

A. 36

B. 12

C. 25

D. 60

Answer: A

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48. The boiling point of water is

A. $0^\circ C$

B. $100^\circ C$

C. 373 K

D. (b) and (c)

Answer: D

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49. Which of the following is not matter?

A. Coal

B. Light

C. Wood

D. Copper

Answer: B

50. The weight of CO_2 obtained by heating 2 g calcium carbonate will be
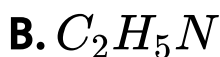
   A. 0.88 g

   B. 1.88 g

   C. 2.0 g

   D. 1.5 g

Answer: A

51. An organic liquid gave on analysis the following results, C= 31.9%, H=6.8%, N= 18.5. Its vapour density is 37.5. The molecular formula of the substance is

A. $C_4H_{10}N_2$

B. C_2H_5N

C. $C_2H_5NO_2$

D. None of these

Answer: B

52. How many moles of KClO, are required to obtain 18 mol of oxygen? (

A. 18

B. 27

C. 12

D. None of these

Answer: C

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53. How many moles of $KClO_3$ are required for getting 30 mol of O_2?

A. 40

B. 30

C. 20

D. 10

Answer: C

54. A person adds 1.71 g of sugar $(C_{12}H_{22}O_{11})$ in order to sweeten his tea. The number of carbon atoms added are (molecular mass of sugar = 342)

A. 3.6×10^{22}

B. 7.2×10^{21}

C. 0.05

D. 6.6×10^{22}

Answer: A

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55. Which of the following contains maximum number of atoms?

A. 2.0 mol of S_8

B. 6.0 mol of S

C. 5.5 mol of SO_2

D. 4.4 8 L of CO_2 at S.T.P

Answer: C

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56. The moles of O_2 required for reacting with

6.8 ammonia

$(\ldots NH_3 + \ldots O_2 \rightarrow \ldots NO + \ldots H_2O)$ is

A. 5

B. 2.5

C. 1

D. 0.5

Answer: D

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57. The mass of $CaCO_3$ produced when carbon dioxide is bubbled through 500 mL of 0.5 M $Ca(OH)_2$ will be

A. 10 g

B. 20 g

C. 50 g

D. 25 g

Answer: D

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58. 12 litre of H_2 and 11.2 litre of Cl_2 are mixed and exploded. The composition by volume of mixture is-

A. 24 L HCl

B. $0.8LCI_2$ and 20.8 L HCl

C. 0.8 L H_2 and $22.4LHCI$

D. 22.4 L HCl

Answer: C

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59. 400 mg of capsule contains 100 mg of ferrous fumerate. The percentage of iron present in the capsule is approximately

A. 8.2

B. 25

C. 16

D. Unpredictable

Answer: A

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60. An unsaturated hydrocarbon weighing 1.68 g has a volume of 488 mL at S.T.P. If it contains

14% of hydrogen. Then, the family to which hydrocarbon belongs is

A. alkane

B. alkene

C. alkyne

D. benzene

Answer: B

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