

T1-Chemistry
Model Question Paper II
9th Standard

Science

Reg.No. :

--	--	--	--	--	--

I. Answer all the questions

Time : 02:00:00 Hrs

Total Marks : 75

10 x 1 = 10

Part-A

- 1) The lead in the pencil we use is made of a material called graphite. Graphite is a mixture of _____.
(a) carbon and clay (b) clay and nitrogen
- 2) Coins are mixtures of solid in solid. Smoke is a mixture of _____.
(a) solid in gas (b) gas in solid
- 3) A mixture of two immiscible liquids can be separated by _____.
(a) Filtration (b) Separating funnel (c) Distillation
- 4) A mixture of iodine and sand can be separated by _____.
(a) filtration (b) sublimation (c) decantation
- 5) Total number of electrons, that can be accommodated in an orbit is given by $2n^2$ ($n = 1, 2, 3, \dots$). Maximum number of electrons, that present in the first orbit is -----
(a) 8 (b) 12 (c) 8
- 6) A subatomic particle is revolving around the nucleus in orbits. It is negatively charged. It was discovered by J.J.Thomson. The particle is _____.
(a) proton (b) neutron (c) electron
- 7) The Nucleus of an atom has two components. They are protons and _____.
(a) neutrons (b) electrons (c) positrons
- 8) Atomic number and mass number of are 17 and 35 respectively. The number of protons present in it is _____.
(a) 17 (b) 35 (c) 18
- 9) The electron distribution of fluorine is 2, 7. The valency of fluorine is _____.
(a) 7 (b) 2 (c) 1
- 10) Every atom has an equal number of protons and electrons. Both are oppositely charged. Neutron is electrically neutral. The nature of atom is _____.
(a) negative (b) positive (c) neutral

Part-B

5 x 1 = 5

- 11) The purity of a substance is often determined by measuring its _____ properties
- 12) Properties of compounds are different from those of its constituent _____.
- 13) Separation of Benzene – Toluene mixture can be done by _____.
- 14) Separation of a mixture containing water and kerosene can be done by use of _____ (distillation, separating funnel)
- 15) _____ (sublimation, chromatography) process is used to separate common salt and ammonium chloride.

Part-C

10 x 1 = 10

- 16) Name the following based on the composition:
 - a) A type of substance that cannot be broken into simple substances chemically
 - b) The substances resulting from the chemical combination of two or more elements in fixed proportion
 - c) Two or more substances are mixed together and the substances retain their individual original properties
 - d) Mixture of two solids (metals)
- 17) Name the types of the mixture of the following:
 - a) Zinc Amalgam (Zinc+Mercury) _____ liquid in solid
 - b) Seawater _____
 - c) Soda drinks _____
 - d) Air _____
 - e) Carbon particles in air (smoke) _____
 - f) Brass (Cu+Zinc an alloy) _____
 - g) Alcohol + Water _____
- 18) Give an example for
 - a) Solid - Solid Homogeneous mixture _____:
 - b) Liquid - Liquid Homogeneous mixture _____
 - c) Gaseous - Gaseous Homogeneous mixture _____
- 19) From the list given below, choose the suitable techniques to obtain the components in each mixture
Water from ink. _____
- 20) From the list given below, choose the suitable techniques to obtain the components in each mixture
Benzene from the mixture of Benzene and Toluene. _____

21) State whether the following statements are "True" or "False". Change the false statements by changing the underlined words.

- a) Liquids expand more than gases on heating. (less than)
- b) Gases cannot be compressed easily with a little pressure. (solids)
- c) Solids have no definite shape. (Gases / Liquids)
- d) Liquids have lower densities than Gases. (Solids)
- e) Solids have very low densities. (high)

22) Write True or False. Correct the false statements.

The Valency of $^{35}_{17}\text{Cl}$ is 7

23) Write True or False. Correct the false statements.

Isotopes of an element have same chemical properties.

24) Write True or False. Correct the false statements.

The stability of the nucleus is determined by the Neutron – Proton ratio.

25) Write True or False. Correct the false statements.

Bohr's theory became the basis of modern physics known as Quantum Mechanics.

Part-D

10 x 2 = 20

26) A pure substance contains a single type of particles. Is seawater pure or not? Justify.

27) In a compound, two or more elements are combined in a fixed ratio by mass. Mention any two properties of a compound.

28) The homogeneous mixture contains a single type of phase. A heterogeneous mixture contains different types of phases. Give one example for each type

29) When solid camphor is exposed to air, it changes into a gaseous state. It is a physical change. Name the process that takes place. Could you give another example for such a process?

30) Liquid 'A' has a boiling point of 353 K and liquid 'B' has a boiling point of 384K. Both are miscible with each other. They are separated by "fractional distillation". Justify the reason for using fractional distillation method

31) Electrons in an atom revolve around the nucleus in circular stationary paths.

- a) Who proposed such a statement?
- b) What is the name of the circular path?

32) $^{35}_{17}\text{X}$ is a gaseous element. Its atomic number is 17. Its mass number is 35. Find out the number of electrons, protons and neutrons.

33) Write the electron distribution in the following elements.

Element	Atomic number	Electron distribution		
		K	L	M
Boron	5	2	-	-
Magnesium	12	-	8	-

34) In the elements given below, identify: (a) Mass Number (b) Atomic Number (c) Number of Protons (d) Number of Electrons (e) Number of Neutrons.

^4_2He , ^7_3Li , $^{11}_5\text{B}$, $^{12}_6\text{X}$, $^{27}_{13}\text{Al}$

35) From the symbol $^{23}_{11}\text{Na}$ state the :

- a) mass number of sodium _____
- b) Atomic number of sodium _____
- c) Electronic configuration _____
- d) Number of Protons _____
- e) Number of Neutrons _____

Part-E

10 x 3 = 30

36) All matters in the universe exist in three states, namely solid, liquid and gas.

- a) Why do solid substances have a definite shape?
- b) Write any two properties of a solid substance.
- c) Will a solid substance expand on heating? Why?

37) Write a short note on chromatography

38) Classify the following as solution, heterogeneous mixture, compound or element.

i. Sodium ii. Glucose iii. Lemon juice iv. Coal dust in sand v. Common salt

39) How are immiscible liquids separated?

40) Write a note on sublimation

41) How many electrons can be accommodated in K, L and M shells?

42) What are isotopes? Draw the isotopes of Hydrogen.

43) Write briefly about the atomic model concept proposed by Rutherford.

44) Name the scientist:

- a) _____proposed the idea of atom as the smallest possible particle of any substance.
- b) _____performed the gold foil experiment with alpha particles to conclude the positive charge at the centre of an atom.
- c) _____discovered the protons.
- d) _____discovered the neutrons of an atom.
- e) _____modified the atomic model with electrons revolving around the nucleus in stationary paths.

45) With reference to Rutherford's Atomic Model, complete the following statements:

- a) Protons and neutrons of an atom are concentrated in its _____.
- b) Atom has a very _____ nucleus at the _____.
- c) Entire mass of an atom is due to the mass of _____.
- d) The Nucleus is surrounded by _____ which are equal to the number of _____and revolve around it.
- e) The nucleus is positively charged as it _____ the _____ charged particles.

