

# Model Question of SSC Examination 2020 for All Board

Chemistry

Subject Code 

1	3	7
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Time — 2 hours 35 minutes

Creative Essay Type Questions

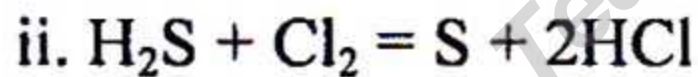
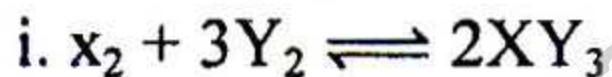
Full marks — 50

[N.B. -The figures in the right margin indicate full marks. Read the stems attentively and answer any five of the following questions.]

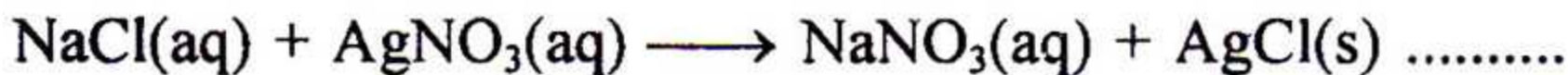
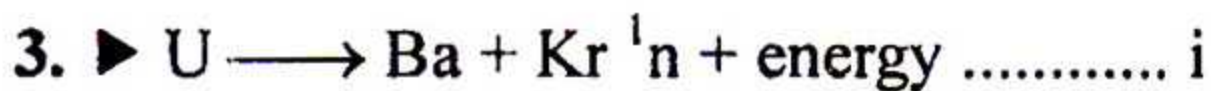
1. ► "X" and "Y" are two atoms whose atomic numbers are 20 & 17.

- What is electronegativity? 1
- Calculate mass of one molecule of oxygen. 2
- Discuss the formation of "Y<sub>2</sub>" molecule. 3
- is the compound formed by "X" and "Y" soluble in water? Explain with logic. 4

2. ★ Observe the following reactions and answer the following questions :



- What is the "Law of Octaves"? 1
- Why Mg is called "Alkaline earth metal"? 2
- What will happen if we increase pressure in no-i reaction? 3
- Reaction-(ii) is a redox reaction. Explain with logic. 4



ii.

- a. What is molar volume? 1
- b. What do you mean by molecular formula? 2
- c. Explain the term spectator ions in the light of reaction-2. 3
- d. Discuss the pros and cons of the reaction-i. 4

4. ►

Element	Atomic number
X	3
Y	15
Z	17

- a. What is rust? 1
- b. What is meant by ore? 2
- c. Explain the formation method of XZ molecule with diagram. 3
- d. One of the elements of the stem has variable valency. Explain it. 4

5. ★ The compound A is formed by elements which have atomic no 11 and 9 respectively. In compound B, C = 40%,



H = 6.67% and O = 53.33%. Its molecular mass is 180.

- What is molarity? 1
- Why does eating salt become wet in rainy season? 2
- Determine the molecular formula of "B". 3
- "The solution of A can conduct electricity but the solution of B cannot" Explain it. 4

6. ► A part of periodic table is given below :

Group →	IIA (2)	IIIA (13)	VIIA (17)
Period ↓			
2	Q	R	Y
3	X	T	Z

[Q, R, T, X, Y, Z, are not actual symbols]

- What is alkali metal? 1
- Why aqueous solution of ammonium chloride is acidic? 2
- Explain the variation of atomic radius for going Y to Z in the stem. 3
- Compare the ionization energy between X and T. 4

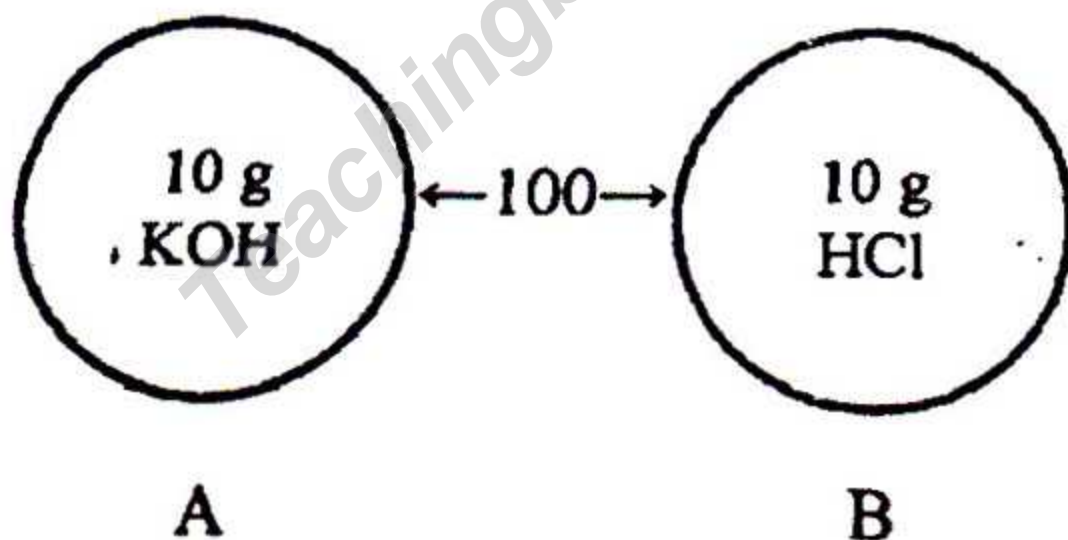
7. ►

X	Y
$C_nH_{2n}$	$C_nH_{2n+2}$

**When  $n = 2$**

- What is sublimation? 1
- How many changes are occurred during the burning of candle? 2
- Identify the unsaturated compound by showing the associated reaction. 3
- Is it possible to prepare organic acid from Y of the stem? Analyze. 4

8. ★



- What is inert gas? 1
- Why is  $\cdot OH$  a radical? 2
- Determine the molarity of container-A. 3
- Discuss the heat of reaction when the two containers are mixed. 4



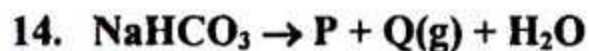
[NB. Answer all the questions. Each question carries one mark. Block fully, with a ball point pen, the circle of the letter that stands for the correct/best answer in the "Answer Sheet" for the Multiple Choice Questions Examination.]

- The coin metals are situated?
  - Group-11
  - Group-13
  - Group-12
  - Group-14
- How many electron contain in each orbi?
  - $n^2$
  - $2n^2$
  - $3n^3$
  - $4n^4$
- ★ Which of following is used for striking a nucleus during a nuclear reaction?
  - proton
  - electron
  - positron
  - neutron
- What is the oxidation number of chlorine in  $\text{HClO}_3$ ?
  - +3
  - +5
  - +7
  - +1
- ★ Which of the following is a base?
  - Soft drinks
  - Lemon juice
  - Vinegar
  - Washing soda
- What is the pH value of pancreatic juice?
  - 8.1
  - 8.2
  - 8.3
  - 8.4
- Which Ore mostly known as Galena?
  - Au
  - Ag
  - Pb
  - Fe
- What type of raction occurs when antacid medicine is taken?
  - Addition
  - Combustion
  - Neutralization
  - Substitution

Read the stem and answer the following questions no 9 and 10.

Elements	Atomic number
A	14
B	15
C	16

- In the steam—
  - Melting point of C is  $119^\circ\text{C}$
  - B & A has variable valency
  - C oxide used bleaching agent
 Which one is correct?
  - i
  - i & ii
  - ii & iii
  - i, ii & iii
- For the steam,  $\text{AO}_2$  compound —
  - Solid state at NTP
  - Formed giant molecule
  - Used as a flux
 Which one is correct?
  - i
  - i & ii
  - ii & iii
  - i, ii & iii
- What amount of solution is to prepare 20gm  $0.75\text{M Na}_2\text{CO}_3$ ?
  - 151 ml
  - 251ml
  - 351ml
  - 451ml
- Which of the following metal extract by reduction with coke coal or carbon monoxide?
  - Mg
  - Cu
  - Cr
  - Ag
- ★ How many electron present is  $\text{Cu}^{2+}$  ion?
  - 27
  - 28
  - 29
  - 30



In stem —

- i. P(aq) is basic
- ii. Q(g) acidic
- iii. Q(g) is lighter than air

Which one is correct?

- (a) i
- (b) i & ii
- (c) ii & iii
- (d) i, ii & iii

15. Semi molar solution dissolved what amount of solute?

- (a) 0.1
- (b) 0.2
- (c) 0.3
- (d) 0.5

16. ★ In natural gas —

- i. Ethane 7%
- ii. Pentane 6%
- iii. Propane 4%

Which one is correct?

- (a) i
- (b) i & ii
- (c) ii & iii
- (d) i, ii & iii

17. ★ Partial distillation of petroleum separated at —

- i. 21 – 70° C gasoline
- ii. 121 - 170° C naphtha
- iii. 171 - 270° C diesel

Which one is correct?

- (a) i & ii
- (b) ii & iii
- (c) i & iii
- (d) i, ii & iii

Read the stem and answer the following question no 18 and 19.



18. What is the colour of A?

- (a) Lightgreen
- (b) White
- (c) Reddish brown
- (d) Blue

19. To balancing stem reaction how many mole of NaOH required?

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

20. Two Br-atoms share one electron in their outermost shell to gain electronic configuration of which element?

- (a) Ne
- (b) Xe
- (c) Ar
- (d) Kr

21. How much percentage of gold in 22 karate gold?

- (a) 80.28%
- (b) 87.51%
- (c) 91.67%
- (d) 97.13%

22. A substance has a molecular formula of  $\text{C}_8\text{H}_{10}\text{N}_6\text{O}_2$ . What is the empirical formula?

- (a)  $\text{C}_4\text{H}_5\text{N}_3\text{O}$
- (b)  $\text{C}_2\text{H}_6\text{N}_2\text{O}$
- (c)  $\text{C}_9\text{H}_7\text{N}_3\text{O}$
- (d)  $\text{CHNO}$

23. What is the empirical formula for a compound that is 36.1% Ca and 63.9% Cl?

- (a)  $\text{Ca}_2\text{Cl}$
- (b)  $\text{Ca}_2\text{Cl}_2$
- (c)  $\text{CaCl}_2$
- (d)  $\text{CaCl}$

24. ★ Which of the following polymer dissolves in water?

- (a) Polyethanol
- (b) Fiber glass
- (c) Bakelite
- (d) Epoxy glue

25. What can be said about 1 mol Ag and 1 mol Au?

- (a) They are equal in mass
- (b) They contain the same number of atoms
- (c) Their molar masses are equal
- (d) They have the same atomic mass

Ans.

1	(a)	2	(b)	3	(d)	4	(b)	5	(d)	6	(a)	7	(c)	8	(c)	9	(c)	10	(d)	11	(b)	12	(b)	13	(a)
14	(b)	15	(d)	16	(a)	17	(c)	18	(a)	19	(b)	20	(d)	21	(b)	22	(a)	23	(c)	24	(a)	25	(b)		