AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS IX

ALTERNATE TO PRACTICAL (ATP)

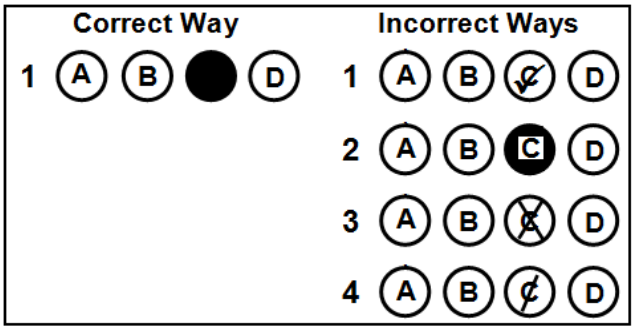
MODEL EXAMINATION PAPER 2021

Chemistry Paper III

Time: 20 minutes Marks: 10

INSTRUCTIONS

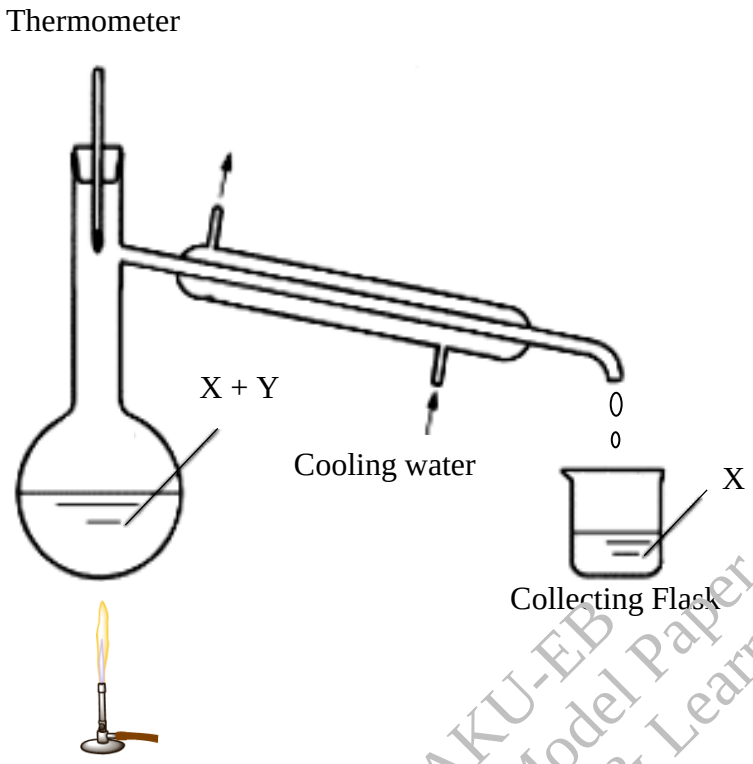
1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 10 only.
4. In each question, there are four choices A, B, C, D. Choose ONE. On the answer grid, black out the circle for your choice with a pencil as shown below.



Candidate's Signature

5. If you want to change your answer, ERASE the first answer completely with a rubber, before blacking out a new circle.
6. DO NOT write anything in the answer grid. The computer only records what is in the circles.
7. You may use a simple calculator if you wish.

1. In the given diagram of distillation assembly, a mixture of two miscible liquids X and Y is being heated and a collecting flask is receiving only component X



The liquid **X** must be a

A. polar solvent.
B. non-polar solvent.
C. liquid with low boiling point.
D. liquid with high boiling point.

2. Consider a mixture of the given substances.

I. A metal
II. An ionic solid
III. A covalent solid

The substance(s) that can separate out through filtration would be

A. I only.
B. III only.
C. I and II.
D. II and III.

3. The components of a solution that can be separated through distillation are

A. miscible liquids.
B. immiscible liquids.
C. an insoluble solid and a polar solvent.
D. an ionic solid and a non-polar solvent.

4. The chemical formula of oxalic acid is $(COOH)_2.2H_2O$

   The amount of oxalic acid required to prepare a 0.1 M solution in volumetric flask of 250 cm^3 is

   (**Note**: $^{1}_{1}H$, $^{12}_{6}C$, $^{16}_{8}O$)

   A. 2.25 g
   B. 3.15 g
   C. 90 g
   D. 126 g

5. During evaporation, if filtered solution of copper sulphate pentahydrate is left on flame for a long period of time, then the obtained product will be

   A. molten copper sulphate.
   B. sharp edged tiny crystals.
   C. white amorphous powder.
   D. dark blue large sized crystals.

6. Ali is provided with three different aqueous solutions of same solute with unknown solubility. To identify supersaturated, saturated and unsaturated solution, he would add some crystals of same solute in all the solutions.

   The CORRECT observation for each type of solution is that the additional solute will be

	Supersaturated Solution	**Saturated Solution**	**Unsaturated Solution**
A	crystallised on increasing temperature	dissolved completely	remained undissolved
B	dissolved completely	remained undissolved	crystallised on increasing temperature
C	crystallised on decreasing temperature.	remained undissolved	dissolved completely
D	remained undissolved	dissolved completely	crystallised on decreasing temperature

7. Following are the types of solution on the basis of amount of dissolved solute in a particular solvent.

   I. Unsaturated solution
   II. Saturated solution
   III. Supersaturated solution

   The type(s) of solution that remain(s) in a dynamic equilibrium state at a certain temperature is/ are

   A. II only.
   B. III only.
   C. I and II.
   D. II and III.

8. The blue colour of copper sulphate solution is due to

   A. its acidic nature.
   B. its water of crystallisation.
   C. the formation of copper(II) ion.
   D. the presence of aqueous medium.

9. Which of the following covalent compounds will be a strong electrolyte when dissolved in water at 25°C?

   A. HCl
   B. CCl_4
   C. $C_{12}H_{22}O_{11}$
   D. CH_3COOH

10. The conductivity of an electrolytic solution increases with the

    A. increase in dilution.
    B. decrease in temperature.
    C. increase in concentration of ions.
    D. decrease in solubility of substance.

END OF PAPER

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