

Q1 (1 mark)

- A substance containing only one type of particle

Q2 (1 mark)

- Two or more substances not chemically joined

Q3 (1 mark)

- A solute spreading evenly in a solvent

Q4 (1 mark)

- Movement of particles from high to low concentration

Q5 (2 marks)

Any two:

- Filtration
- Evaporation
- Distillation
- Chromatography

Q6 (2 marks)

Any two:

- Air
- Seawater
- Soil
- Fizzy drinks

Q7 (2 marks)

Any two:

- Sharp melting point
- Sharp boiling point
- Only one substance present

Q8 (2 marks)

- Pure substance contains one type of particle (1)
- Mixture contains different substances (1)

Q9 (3 marks)

- Particles move randomly (1)
- Spread from high to low concentration (1)
- Eventually evenly spread out (1)

Q10 (3 marks)

- Insoluble solid trapped by filter paper (1)
- Liquid passes through filter (1)
- Separates solid from liquid (1)

Q11 (3 marks)

- Liquid is heated (1)
- Solvent evaporates (1)
- Solid remains behind (1)

Q12 (4 marks)

- Use filtration (1)
- Sand is insoluble (1)
- Sand remains in filter paper (1)
- Water passes through filter (1)

Q13 (4 marks)

- Ink dissolves in solvent (1)
- Solvent moves up paper (1)
- Different substances move at different speeds (1)
- Different colours separate (1)

Q14 (4 marks)

- Heat salty water (1)
- Water evaporates (1)
- Vapour cools and condenses (1)
- Pure water collected separately (1)

Q15 (4 marks)

Four from:

- Pure substances contain one type of particle (1)
- Pure substances have fixed melting point (1)
- Pure substances have fixed boiling point (1)
- Mixtures melt/boil over a range (1)
- Testing temperatures identifies purity (1)

- Impurities change melting/boiling points (1)

Q16 (6 marks)

Level 1 (1-2 marks)

- Basic separation method named

Level 2 (3-4 marks)

- Some methods explained

Level 3 (5-6 marks)

- Clear explanation of several separation techniques

Expected content:

- Filtration separates insoluble solids (1)
- Evaporation removes solvent (1)
- Distillation involves evaporation and condensation (1)
- Chromatography separates dissolved substances (1)
- Different methods used for different mixtures (1)
- Particle behaviour explained (1)

Example full-mark answer:

"Different methods can be used to separate mixtures. Filtration separates insoluble solids from liquids using filter paper. Evaporation removes a solvent and leaves the dissolved solid behind. Distillation separates liquids by heating and condensing vapour. Chromatography separates dissolved substances because they move at different speeds through paper. Different separation methods are used depending on the substances in the mixture."