51. B. Fractional distillation
52. B. Travel longer distances.
53. B. Liquid-liquid immiscible mixture
54. B. Homogeneous mixtures have uniform composition, while heterogeneous mixtures do not.
55. C. Completely mixed at a molecular level with water particles.
56. B. Condenser
57. C. Solvent extraction
58. C. Salt dissolved in water
59. B. Obtain useful components or remove harmful impurities.
60. B. Decantation

SECTION B: STRUCTURED QUESTIONS

Sub-strand 2.1: Mixtures

1. A group of learners is preparing to separate a mixture of salt and water in their laboratory.

a) Is the mixture of salt and water homogeneous or heterogeneous? Explain your answer. (2 marks)

Homogeneous. This is because the salt dissolves completely in the water, resulting in a **uniform composition** throughout the mixture. You cannot distinguish the salt particles from the water particles with the naked eye.

b) Name the two main components of this mixture and state their roles (solute/solvent). (2 marks)

i. **Salt:** Solute

ii. **Water:** Solvent

c) Describe, with the aid of a labelled diagram, the apparatus setup and procedure you would use to obtain pure water from the salt solution. (5 marks)