

Attempt all questions

- 1.** **[1x3=3]**
- i. What was the thickness of gold foil used in Rutherford's experiment?
 - ii. Write the electronic configuration of Calcium (Z=20).
 - iii. How many electrons can be accommodated in the fourth (or N) shell of an atom?
- 2.** **[2x4=8]**
- i. Mention two main differences between a mixture and a compound.
 - ii. The atomic numbers of Al and Cl are 13 and 17, respectively. What will be the numbers of electrons in Al^{3+} and Cl^- ?
 - iii. What are the postulates of Thomson's Atomic Model?
 - iv. Which separation technique will you apply for the separation of the following?
 - (a) Wheat grains from husk
 - (b) Butter from curd
- 3.** **[3x3=9]**
- i. Draw a flow-sheet describing separation of the constituents of a mixture containing aluminium powder, iron filings and sugar.
 - ii. Describe sedimentation and decantation with the help of an activity. What kind of mixtures can be separated by decantation?
 - iii. Electronic configuration of an atom X is (2, 8, 7). It combines with another atom Y having electronic configuration (1) :
 - (a) What type of bond will be formed between X and Y
 - (b) Write the formula of the compound
 - (c) Is it soluble in water?

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