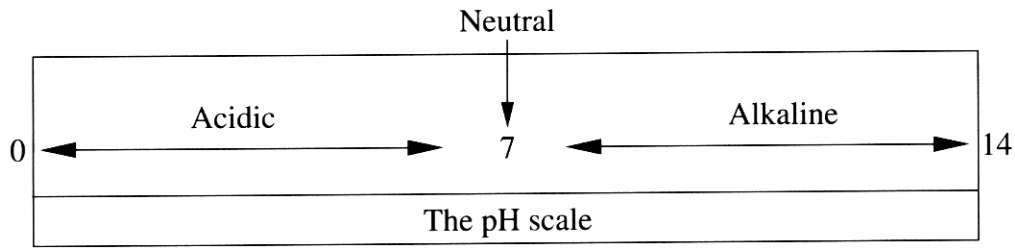
**Marks**

**Question 26** (5 marks)

The following is an extract from a gardening website. **5**




> Hydrangeas are amazingly versatile in that you can alter the flower colour by changing the pH of the soil. In acid soils, hydrangeas produce blue flowers. In alkaline soils, hydrangeas produce mauve, pink and red flowers.

Describe a first-hand investigation that could be used to verify the effects of pH on the colour of hydrangea flowers.

Experiment - Affect of environment on phenotype
Aim - To see the change in the colour of hydrangea flowers to different pH's.
Method - 1. Set up 7 trays of soil mix with pH levels of pH 2, pH 4, pH 6, pH 8, pH 10, pH 12, pH 14 (same type & and amount of soil mix in all trays)
2. Plant 20 seeds of the same type of hydrangea in each of the trays
3. Allow the seeds to grow making sure that they get the same amount of water and sunlight
4. When they blossom record the colour of the different trays. Set up a table of your results