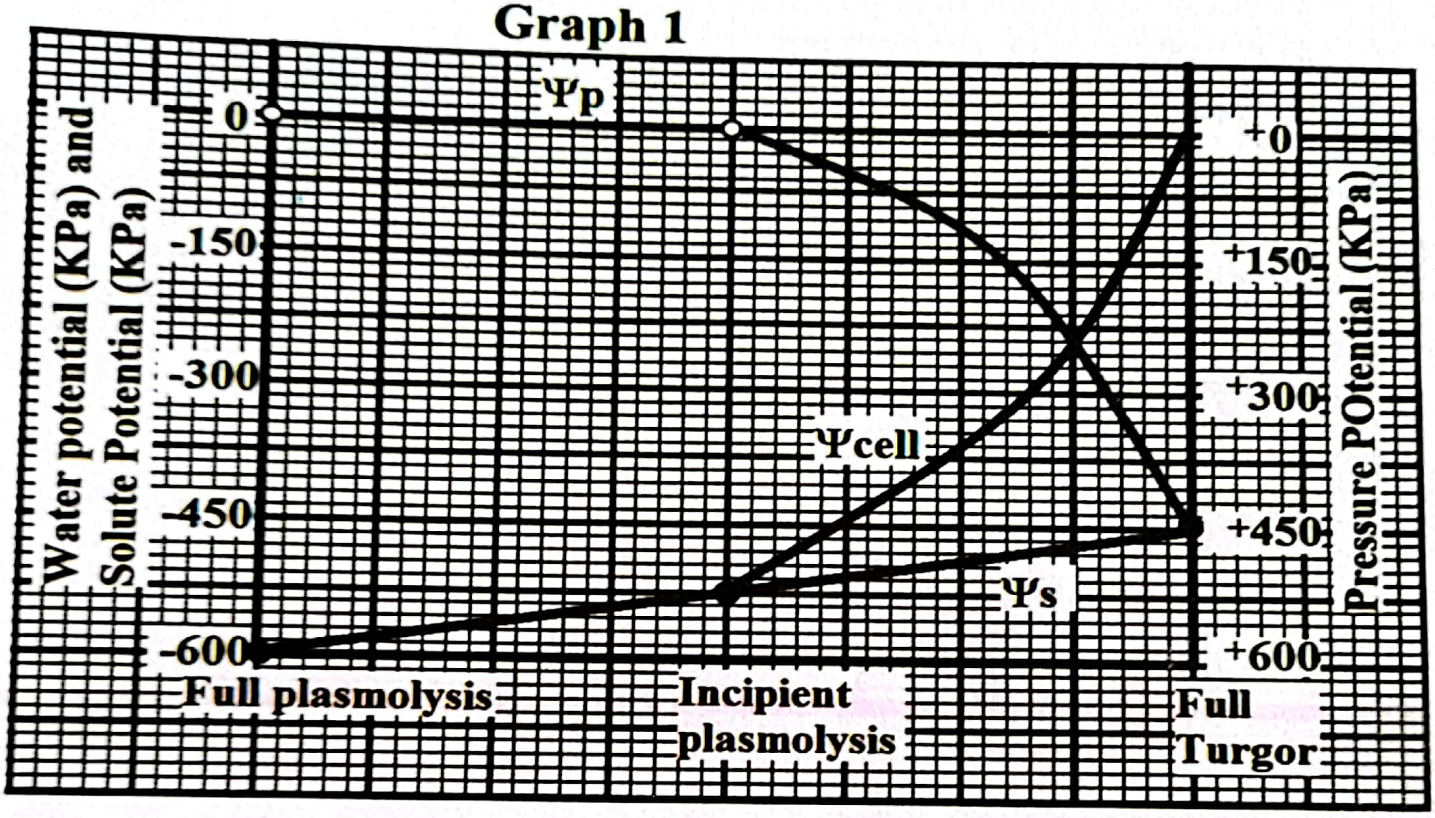
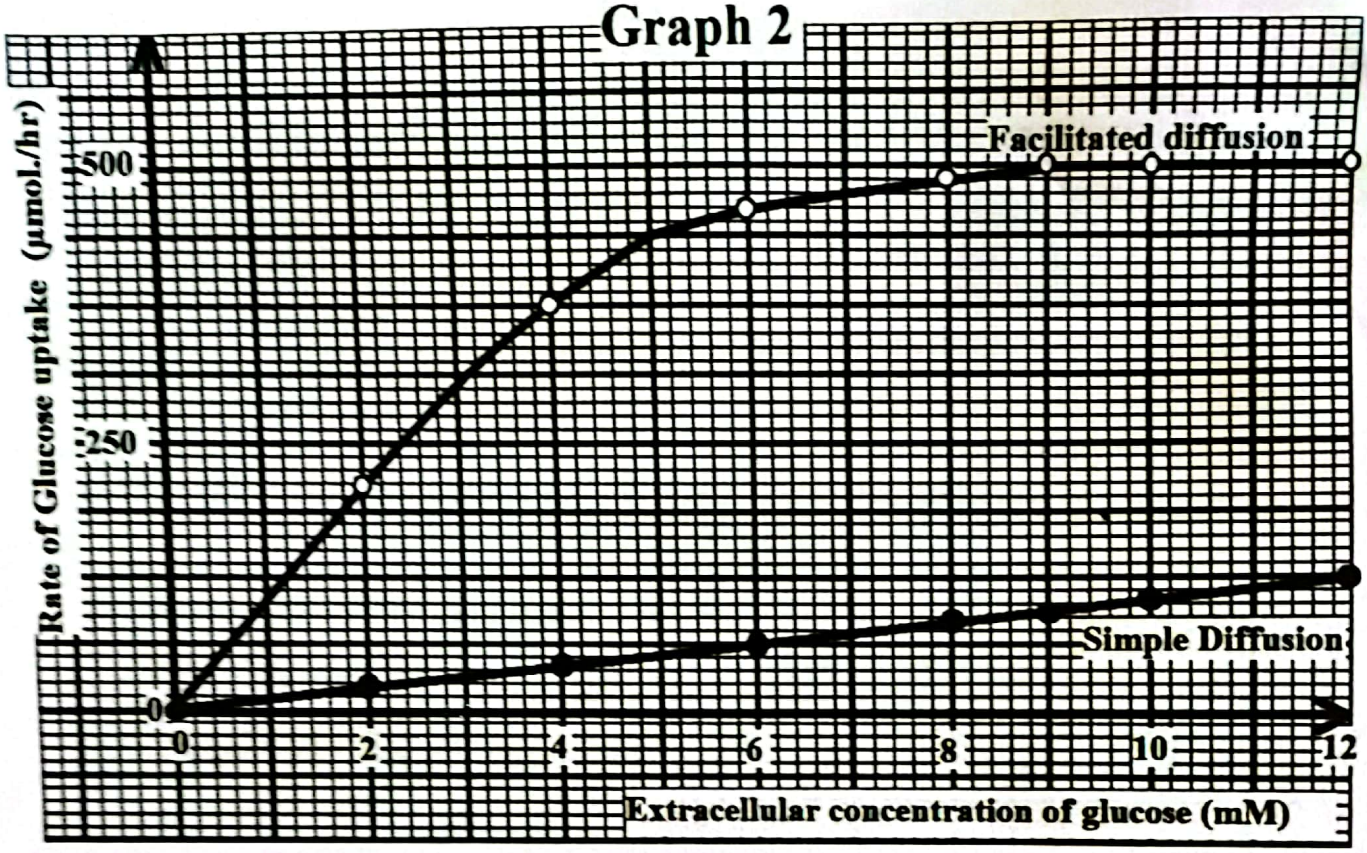
diffusion with facilitated diffusion. (11 marks)

Graph **1** shows changes in the different potentials of a fully plasmolysed plant cell placed in hypotonic solution, and graph **2** shows the rate of uptake of glucose by blood using simple and facilitated diffusion at varying extracellular concentration of glucose.

Graph 1



Graph 2



(a) Define the following terms:

(i) Water potential (01 marks) (ii) Pressure potential solute (01 marks)

(iii) Solute potential (01 marks)

(b) Describe the changes in:

(i) Pressure potential from full plasmolysis to full turgor. (03 marks)

(ii) Water potential from full plasmolysis to full turgor. (03 marks)

(c) Explain the changes in water potential from full plasmolysis to full turgor. (12 marks)

(d) Compare the effect of increasing extracellular concentration of glucose on the rates of up take of glucose by simple and facilitated diffusion. (03 marks)

(e) Explain the effect of increasing extracellular concentration of glucose on the rates of up take of glucose when the diffusion is facilitated. (11 marks)

(f) Outline the differences between the functioning of carrier proteins in facilitated diffusion and those in active transport. (05 marks)