Solution

(a) 

(b) At \textbf{H}: The circular muscles of the intestine wall relax while the longitudinal muscles contract.

At \textbf{I}: The circular muscles of the intestine wall contract while the longitudinal muscles relax.

The alternate contraction and relaxation of longitudinal and circular muscles in the small intestine wall produces a series of rhythmic wave-like contractions called peristalsis. This contractions push food further down to the ileum and then the colon.

\textbf{Colon}

(i) \textbf{Villus}

(ii) Region \textbf{K} has numerous minute fingerlike projections called villi to increase the surface area for rapid absorption of digested soluble food substances e.g. glucose, amino acids etc. by diffusion process.

Region \textbf{J} receives indigestible material from the ileum. Its main function is to reabsorb water and mineral salts from the indigestible matter. The indigestible matter remains in the colon over a longer period of time, becomes more solid.

\textbf{Question 16}

Fig. 5.1 shows the human alimentary canal.

(a) In which lettered region does most of the absorption of substances in solution occur? \[1\]

Fig. 5.2 shows the concentration of a drug (drug \textbf{J}) in a person's blood during the time after it was swallowed.