5) i) All Romans were either loyal to Hitler (or) Hated him.

→ Domain:- set of all Romans.

x be Romans.

⇒ x is loyal to Hitler

x hates Hitler

All Romans → Universal quantifier (∀)

loyal (or) hate → disjunction (∨)

$\forall x(x \rightarrow (\text{loyal to Hitler} \vee \text{Hate Hitler}))$

ii) Some Real numbers are rational

→ Domain:→ set of all real numbers

x → be real numbers

Some real numbers → Existential Quantifier (∃)

$\exists x(\text{Real}(x) \wedge \text{Rational}(x))$.

iii) No herbivores have sharp teeth

→ x represents creatures.

No herbivores → universal quantifier (∀)

$\forall x(x(\text{herbivores}) \rightarrow \text{Sharpteeth}(x))$

iv) Everyone is loyal to someone