

Unambiguous Grammar.

1) $E \rightarrow E + E$
 $E \rightarrow E * E$
 $E \rightarrow id$

Ans:

$$\begin{aligned} E &\rightarrow E + T \mid T \\ T &\rightarrow T * F \mid F \\ F &\rightarrow id \end{aligned}$$

2) $E \rightarrow E + E$
 $E \rightarrow E * E$
 $E \rightarrow E - E$
 $E \rightarrow E / E$
 $E \rightarrow (E)$
 $E \rightarrow id$

Ans:

$$\begin{aligned} E &\rightarrow E + E \mid E - E \\ E &\rightarrow E * E \mid E / E \\ E &\rightarrow (E) \\ E &\rightarrow id \end{aligned}$$

$$\begin{aligned} E &\rightarrow E + T \mid E - T \mid T \\ T &\rightarrow T * F \mid T / F \mid F \\ F &\rightarrow (E) \\ F &\rightarrow id \end{aligned}$$

3) $E \rightarrow E + E$
 $E \rightarrow E * E$
 $E \rightarrow E \wedge E$
 $E \rightarrow id$

Ans:

$$\begin{aligned} E &\rightarrow E + T \mid T \\ T &\rightarrow T * F \mid F \\ F &\rightarrow P \wedge F \mid P \\ P &\rightarrow id \end{aligned}$$

4) $E \rightarrow E + E$
 $E \rightarrow E * E$
 $E \rightarrow (E)$
 $E \rightarrow id$

Ans:

$$\begin{aligned} E &\rightarrow E + T \mid T \\ T &\rightarrow T * F \mid F \\ F &\rightarrow (E) \\ F &\rightarrow id \end{aligned}$$