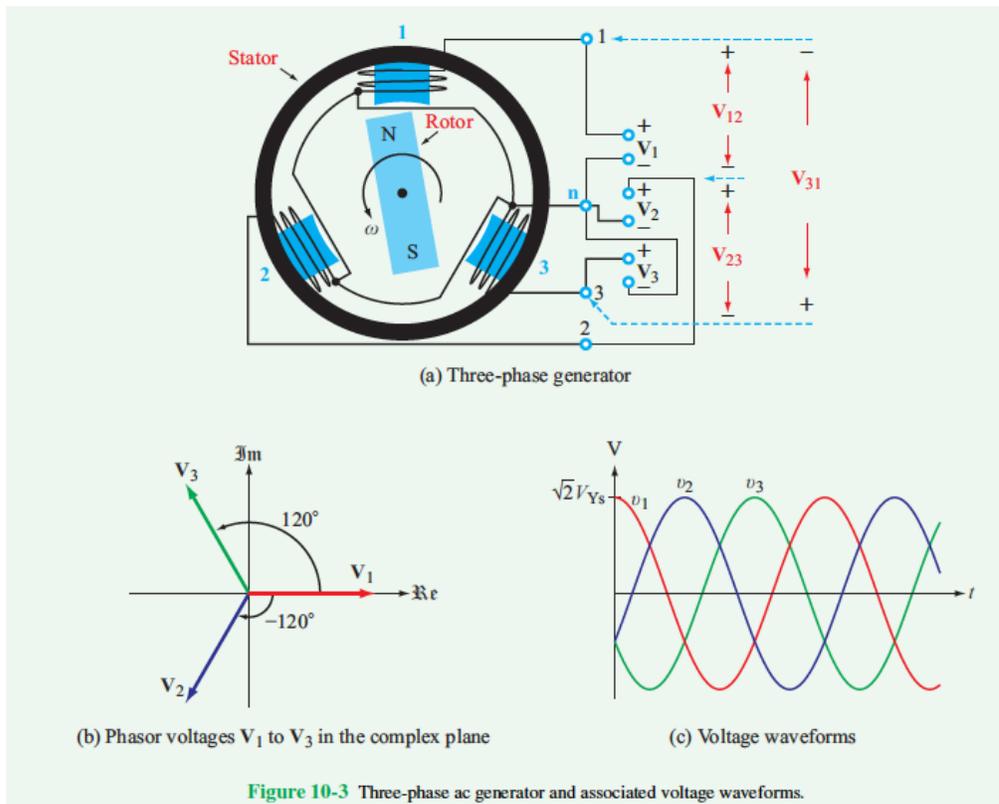


**Concept Question 10-1:** Why are the voltage sources of a three-phase source separated by  $120^\circ$  increments in phase?



Power is generated by spinning a large electromagnet past three separate stationary coils arranged evenly around a circular tube. Consequently, the three induced voltages have the same amplitude and frequency (60 Hz), but their phase angles are staggered by  $360^\circ/3 = 120^\circ$  between any two of them.