If student progressed this far, a block diagram on the white board was uncovered (it was covered by opaque paper at start of exam).

$$\frac{\uparrow}{f_1} \xrightarrow{f_2} \rightarrow \underbrace{Limiter}^{s(t)} \xrightarrow{s(t)} \underbrace{s(t)}^2 \rightarrow \underbrace{BPF}_{BW=20 f_D} \rightarrow \underbrace{\frac{frequency}{2}}_{out}$$

The block diagram was described and the question asked was what is the frequency or frequencies at the output?