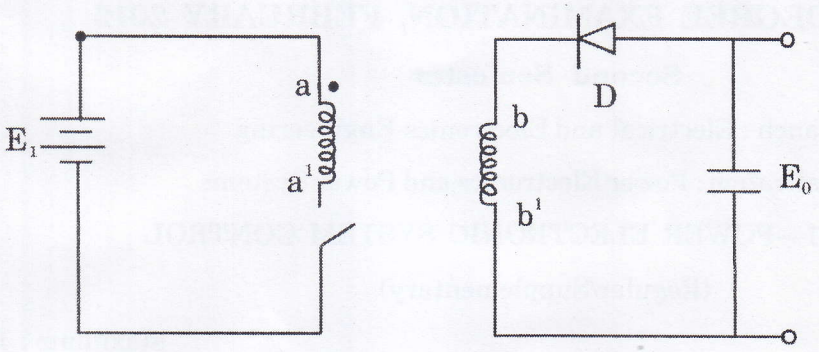
(b) In the isolate converter of figure shown below E_1 = 170 V, Switching frequency = 20 kHz,



Duty cycle = 75%, Number of turns naa^1 = 100 number of turns nbb' = 25. Assume ideal components and repetitive conditions. Also consider continuous current through Diode D during OFF switch period. Calculate E_0 and Plot the waveform of voltage Vaa' and Vbb' considering relative magnitudes and time intervals. (12 marks)

6. (a) What is a flyback converter ? Draw the circuit diagram and explain its principle of operation. (10 marks)

(b) Draw the block schematic diagram of a Switched Mode Power Supply. (10 marks)

7. (a) What are resonant converters ? How they are classified ? (6 marks)

(b) Discuss the principle of zero voltage and zero current switching. (6 marks)

(c) Draw the circuit diagram of a Half bridge, Zero current switch-Quasi Resonant Converter. (8 marks)

(5 × 20 = 100 marks)