Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Q1.

(i) Figure 17 shows the output from a battery.

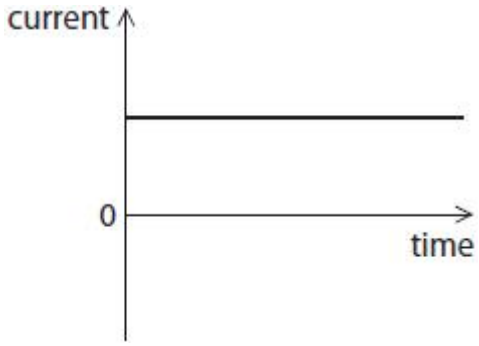

Figure 17

Explain why a transformer will not work with the input current as shown in Figure 17.

(2)

.....

.....

.....

.....

(ii) A transformer has 30 turns on the primary coil and 150 turns on the secondary coil.

A potential difference of 25 V is applied across the primary coil.
Calculate the potential difference across the secondary coil.
Use an equation selected from the list of equations at the end of this paper.

(3)

potential difference = ... V

(Total for question = 5 marks)

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Q2.

This question is about a transformer.

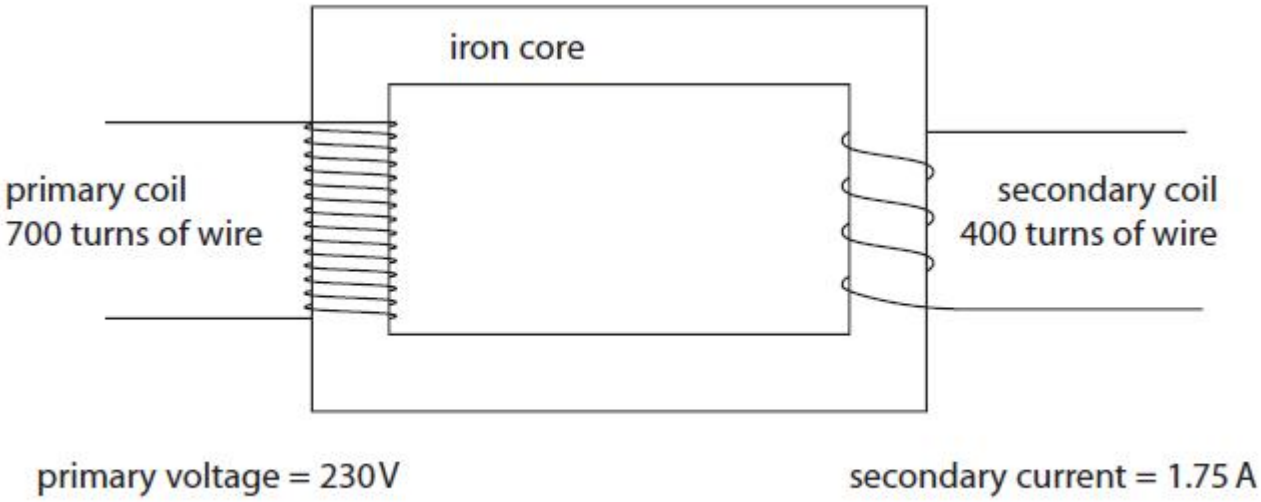

Figure 21

Calculate the current in the primary coil.

Use the information given in Figure 21 and equations selected from the list of equations at the end of this paper.

The transformer is 100% efficient.

(3)

current in the primary coil = ... A

(Total for question = 3 marks)

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Q3.

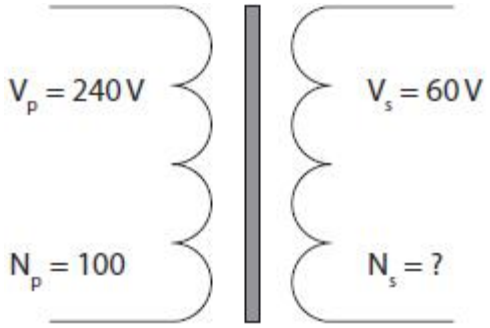

Figure 13

Figure 13 represents a transformer.
Calculate the number of turns in the secondary coil.

Use an equation selected from the list of equations at the end of this paper.

(2)

number of turns .....

(Total for question = 2 marks)

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Q4.

The primary coil of a different transformer is connected to the 230 V mains supply.

The voltage across the secondary coil is 15 V.

The primary coil has 600 turns.

Calculate the number of turns on the secondary coil.

Use an equation selected from the list of equations at the end of the paper.

(2)

number of turns = ...

(Total for question = 2 marks)

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Q5.

Figure 18 shows a transformer.

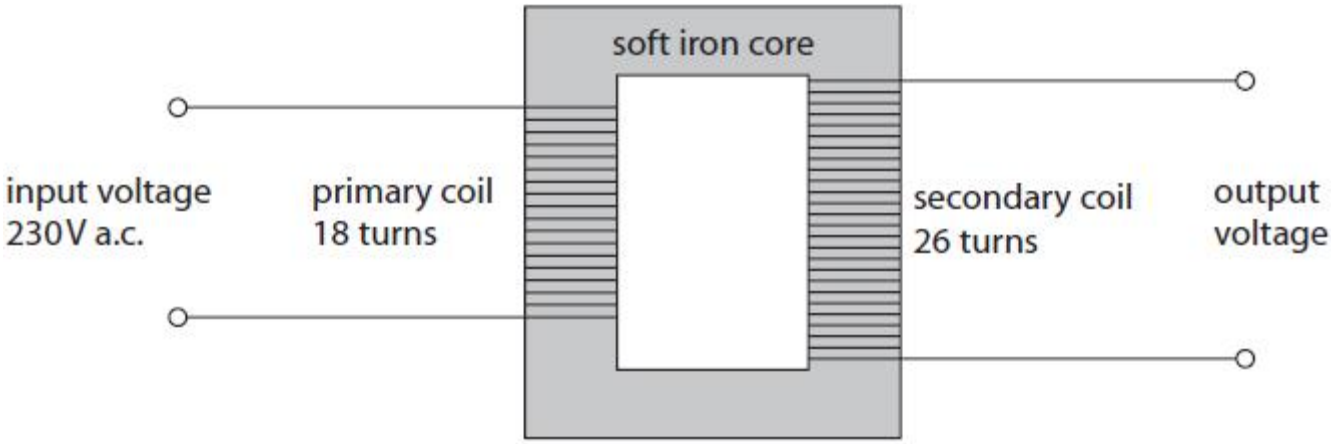

Figure 18

(i) State the purpose of the transformer shown in Figure 18.

(1)

.....

(ii) Calculate the output voltage of the secondary coil.

Use an equation selected from the list of equations at the end of this paper.

(3)

output voltage = ... V

(Total for question = 4 marks)

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Q6.

Figure 25 shows a transformer.

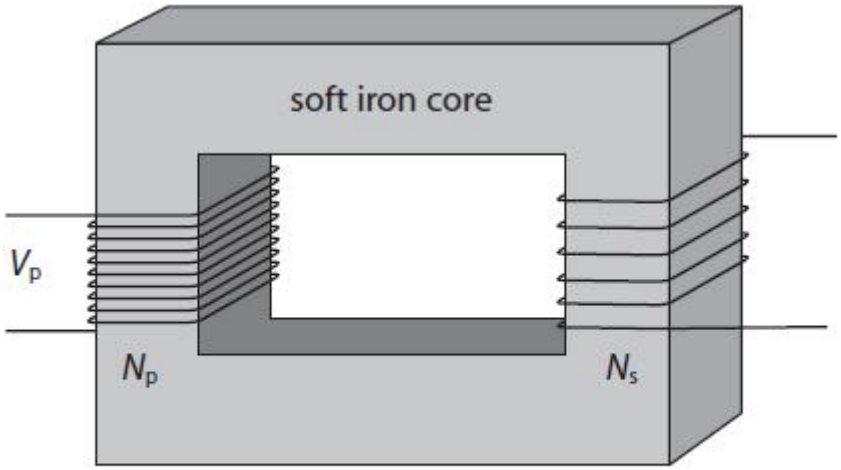

Figure 25

The number of turns on the primary coil, $N_p = 800$

The potential difference across the primary coil, $V_p = 230$ V

The number of turns on the secondary coil, $N_s = 18$

Calculate the potential difference across the secondary coil.

Use an equation selected from the list of equations at the end of the paper.

(3)

potential difference across the secondary coil = ... *V*

(Total for question = 3 marks)

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