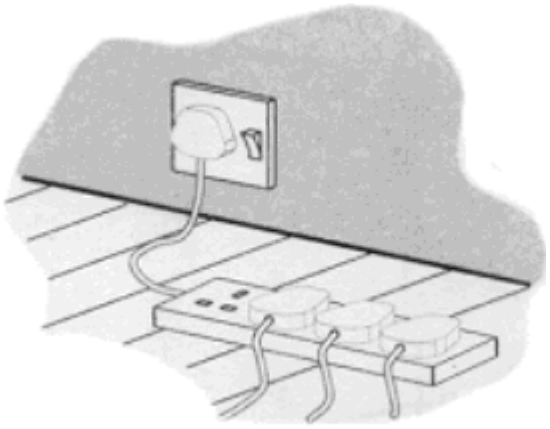
Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Q1.

(a) An adaptor can be used to connect up to four appliances in parallel to one 230 V mains socket. The adaptor is fitted with a 13 A fuse. The table gives a list of appliances and the current they draw from a mains socket.



Appliance	**Current**
computer	1 A
hairdryer	4 A
heater	8 A
iron	6 A
television	2 A

(i) What current will flow to the adaptor when the television, computer and hairdryer are plugged into the adaptor?

_____

Current = _____ A

(1)

(ii) Write down the equation which links current, electrical power and voltage.

_____

(1)

(iii) Calculate the electrical power used when the television, computer and hairdryer are plugged into the adaptor. Show clearly how you work out your answer and give the unit.

_____

_____

_____

Electrical power = _____

(2)

(iv) What would happen to the fuse if the heater is also plugged into the adaptor?

Give a reason for your answer.

_____

_____

(2)

(b) The diagram shows **two** of the appliances.

Iron

Hairdryer

(i) For safety reasons, it is important that the iron has an earth wire connected to its outer metal case. Explain why.

_____

_____

_____

_____

(2)

(ii) The hairdryer does not have an earth wire. It is safe to use because it is double *insulated.* Explain what the term *double insulated* means.

_____

_____

_____

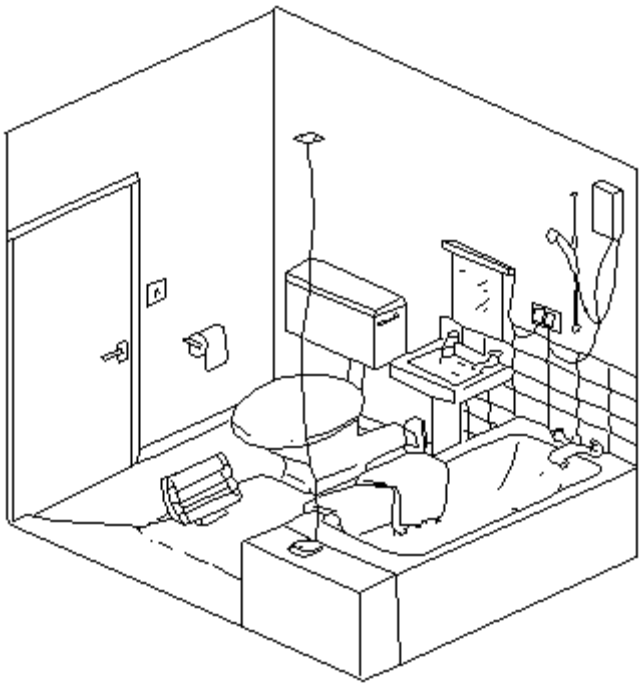
_____

(2)

(Total 10 marks)

Q2.

(a) The picture below shows the bathroom in a house.



Describe **three** examples of dangerous practice in the use of mains electricity in this bathroom.

1. _____

_____

2. _____

_____

3. _____

_____

(3)

(b) In the table below three electrical appliances are listed with their power ratings and the number of hours they are used each week.

ELECTRICAL APPLIANCE	POWER RATINGS (W)	TIME USED EACH WEEK (h)	k Wh USED EACH WEEK
TV	200	35	
Kettle	2000	2	
Toaster	1000	1	
Cooker	11 500	7	

(i) Complete the table by inserting the number of kWh used by each appliance each week.

(ii) Which appliance would cost the least to run per week?

_____

(iii) The cost of running a toaster is 8p per week. How much does it cost to run the kettle each week?

_____

_____

_____

(6)

(Total 9 marks)