Litera Valley Zee School, Hosur
Grade 10- Worksheet Practice-September(2019-20) – Week 3

Science   **(Date of Submission:19-09-19)**

Physics

Topic: Electricity

1.   An electric iron consumes energy at a rate of 840 W when heating is at the maximum rate and 360 W when the heating is at the minimum. The voltage is 220 V. What are the current and the resistance in each case?
2.   Two bulbs have ratings 100 W, 220 V and 60 W, 220 V respectively. Which one has a greater resistance?
3.   Calculate the current and resistance of a 100 W, 200V electric bulb.
4.   Calculate the power rating of the heater coil when used on 220V supply taking 5 Amps.
5.   A lamp can work on a 50 volt mains taking 2 amps. What value of the resistance must be connected in series with it so that it can be operated from 200 volt mains giving the same power?
6.   How much power is dissipated when 0.2 ampere of current flows through a 100-ohm resistor?
7.   How much energy is converted by a device that draws 1.5 amperes from a 12-volt battery for 2 hours?
8.   The potential difference between the terminals of an electric heater is 60 V when it draws a current of 4 A from the source. What current will the heater draw if the potential difference is increased to 120 V?
9.   The current passing through a room heater has been halved. What will happen to the heat produced by it?
10.   An electric iron of resistance 20 ohm draws a current of 5 amperes. Calculate the heat produced in 30 seconds.

Chemistry

Topic: Carbon and its compounds

1.   Kamala and Reema are best friends. On one evening Kamala went to Reema's house and found her working in the kitchen. The gas burner was emitting yellow flame instead of blue flame. Kamala immediately asked Reema to put off the gas. She helped her in cleaning the fine holes of the gas burner with a needle. The entire process took about 15 minutes. The gas was now ignited and there was a blue flame.
     a.   Why was burner emitting yellow flame?
     b.   What was the purpose of cleaning the holes?
     c.   In what way Kamala helped Reema?
     d.   What lesson can we learn from this?
2.   Define the term functional group. Identify the functional group present in
     a. CH_3-CH_2-CH_2-OH and H-CHO
     b. What will you observe on adding a 5% solution of potassium permanganate solution drop by drop to some warm ethanol taken in a test tube? Write the name of the compound formed during the above chemical reaction.
3. Explain isomerism. Draw the structures of possible isomers of butane, C_4H_{10}.