

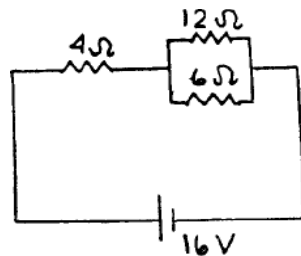
**School of Computing Science and Engineering**  
**Bachelor of Computer Applications**  
**Mid Term Examination – Nov 2023**

**Duration: 90 Minutes**

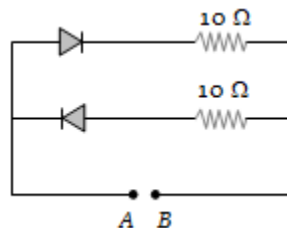
**Max Marks: 50**

**Sem 1 – E1UA108B- Electronics Workshop**

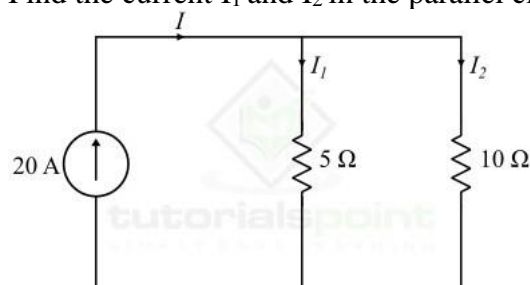
- 1) How zener diode is different from a simple pn diode. K2 (2)
- 2) (a) Where do we use resistors in everyday life? K1 (3)  
  
(b) Calculate the resistance of the resistor which has a color code of orange, orange, orange?
- 3) Find the total current passing through the circuit K2 (4)



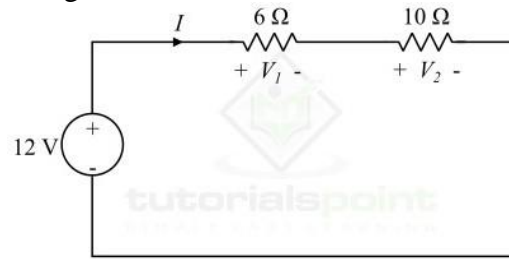
- 4) (a) What is the resistor code for a 1000 ohm resistor? K2 (6)  
  
(b) An electric heater draws a current of 5 A, when connected to 220 V mains. Calculate the resistance of its filament.  
  
(c) Determine the current in a 75 W light bulb that is connected to 120V.
- 5) (i) A 2V battery is connected across the points A and B as shown in the figure given below. Assuming that resistance of each diode is zero in forward bias and infinity in reverse bias, the current supplied by the battery when its positive terminal is connected to A is : K3 (6)



- (ii) Find the current  $I_1$  and  $I_2$  in the parallel circuit shown in figure



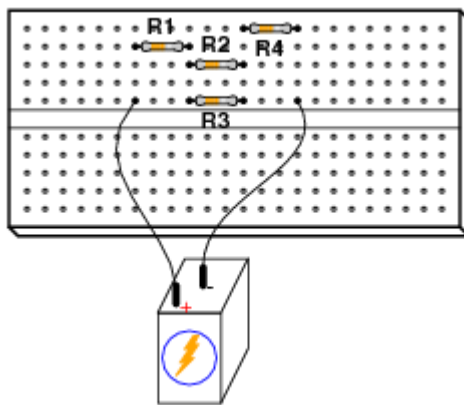
- (iii) Find the voltage across resistors R1 (6 ohms) and R2 (10 ohms) in the circuit shown in Figure



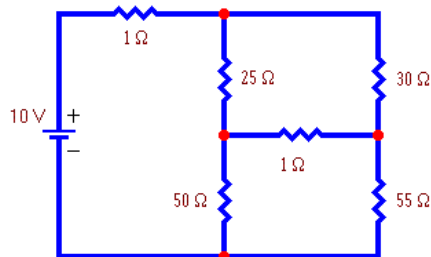
- 6) (i) Write a note on voltage regulator circuit. K3 (9)

(ii) Which is a solderless device for temporary prototyping of electronics and test circuit designs? What precautions should we take while using it.

(ii) Draw a schematic diagram of this “breadboarded” circuit:



- 7) From the given circuit below, find the number of nodes, junctions, mesh, loops, branch, active devices, passive devices and name them. K4 (8)



- (8) An alternating voltage  $e = 400\sin 314t$  is applied to a device that offers an ohmic resistance of 10 ohm to the flow of current in one direction while preventing the flow of current in the opposite direction. Calculate RMS value and average value, respectively, for the current over one cycle. K4 (12)

OR

- (i) Explain working of full wave bridge rectifier with circuit diagram.  
 (ii) Compare Photo Diode & LED.