NAME: ....

ELECTRONIC

1. In n type semi conductor, added impurity is ………………………………………

(A) pentavalent.
(B) divalent.
(C) tetravalent.

(D) trivalent.

2. n-type semiconductor is an example of ………………………………………

(A) extrinsic semiconductor.
(B) intrinsic semiconductor.
(C) super conductor.

(D) insulators.

3. All semiconductors in their last orbit have ………………………………
(A) 8 electrons.
(B) 2 electrons.
(C) 4 electrons.

(D) 6 electrons.

4. Holes are majority carriers in ………………………………..

(A) P-type semiconductors.
(B) N-type semiconductors.
(C) Insulators.

(D) Superconductors.

5. In order to obtain p-type germanium it should be doped with a…………………..

(A) Trivalent impurity.

(B) Tetravalent impurity.

(C) Pentavalent impurity.

(D) Any of the above will do.

6. Briefly explain how a p-type semiconductor is formed

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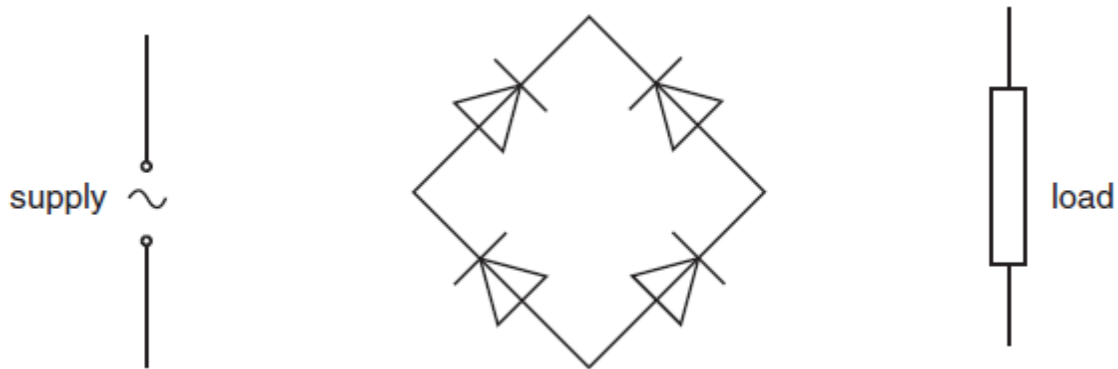……

(2mks)

7. The components for a bridge rectifier are shown in Figure.

(a) Complete the circuit of Figure by showing the connections of the supply and of the load to the diodes. [2]

(b) Suggest one advantage of the use of a bridge rectifier, rather than a single diode, for the rectification of alternating current.

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[1]

(c) State
(i) What is meant by *smoothing*,

....

....

....

[1]

(ii) The effect of the value of the capacitance of the smoothing capacitor in relation to smoothing.

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....

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[2]

8. (a) Draw a well labeled diagram of a P-N junction in forward bias mode.

[2m]

(b) Sketch a V-I graph for a diode and clearly show the forward and reverse bias characteristics.

[3m]
[Total 5m]

9. (a) What is the difference between intrinsic and extrinsic semi-conductors?

………

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[2m]

(b) What do you understand by the term doping?

………

………..…………………………

[1m]

(c) Suggest a suitable doping material for n-type semi-conductor.

………..………………………

[1m]

[Total 3m]