SHIKSHA CLASSES

Subject : Physics	Question Paper	Total Marks :20
Class : XI	14 : Semicondutor	Time : 1 Hour

SECTION - A

Q.1 : Choose the correct option : 4

i) The energy gap between the conduction bond and valence band of a substance is of the order of 0.7 eV, then the substance is_____

    a) a conductor   b) a semiconductorc) an insulator   d) a super conductor

ii) The energy band gap is maximum in_____

    a) copper   b) an insulator

    c) gernmanium   d) a super conductor

iii) In a semiconductor, acceptor impurity is ------.

    a) antimony   b) indium

    c) phosphorous   d) arsenic

iv) The number of bonds formed in p-type and n-type semiconductors are respectively ------.

    a) 4, 5   b) 3, 4

    c) 4, 3   d) 5, 4

Q.2 : Answer the following : 2

i) What is 1 eV?

ii) Define extrinsic semiconductor.

SECTION B

: Answer the following : (ANY 2) 4

Q.3 : How does conductivity of semiconductor very with temperature.

Q.4 : Explain the concept of conduction band in solid crystal.

Q.5 : Explain the structure of silicon with the help of proper diagram.

SECTION C

: Answer the following : (ANY 2) 6

Q.6 : Explain the concept of energy band gap.

Q.7 : Explain in detail the forward biasing of a p - n junction.

Q.8 : What us zero biased p-n junction diode? Draw its diagram.

SECTION D

: Answer the following : (ANY 1) 4

Q.9 : Explain how solids are classified on the basis of band theory of solids.

Q.10 : Write note on :

i) Electric devices

ii) Electronic devices

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