

ELECTRONICS PAPER 2

Q1)A)

Select the correct alternative and rewrite the sentences:

04

1) In an Atom an orbit can contain a maximum ofelectrons.

A) $2n^2$ b) n^2 c) 8

2) Semiconductors havetemperature coefficient of Resistance.

a) Positive b) Negative c) 0

3) In a BJTis heavily doped.

a) Emitter b) Base c) Collector

4) For use as an Amplifier the Transistor must be operated inregion.

a) Saturation b) Active c) Cut off

B) Attempt any two of the following:

06

1) Explain the atomic structure of Silicon.

2) Write a note on Intrinsic Semiconductors.

3) What are the types of BJT? Explain the amount of Doping and area of each region in a transistor.

Q2) A) Attempt any two of the following:

06

1) Define α and β of a transistor. Obtain the relation between the same.

2) Explain the operation of NPN transistor.

3) When the emitter current of a transistor is changed by 0.99mA, its collector current changes by 0.98mA. Calculate α and β .

B) Attempt any one of the following:

04

1) Compare CB, CC, CE.

2) Explain the concept of doping of Semiconductors.

Q3) A) Attempt any two of the following:

06

1) Explain the transistor as switch.

2) Explain the Common emitter configuration.

3) What are the important characteristics of semiconductor diodes..

B) Attempt any one of the following:

04

1) Explain the Zener Diode in detail.

2) Explain the Basic CE Amplifier.

Q4) a) Attempt any two of the following:

06

1) Explain the LED in detail .

2) Explain the electron hole combination.

3) Explain the Photo diode

B) Attempt any one of the following:

04

1) Explain the forward characteristic of p n junction diode.

2) Explain the detail of Zener diode as voltage regulator..

Q5) A) Attempt any two of the following:

06

1) Explain the types of diodes only 3 names with symbol.

2) Explain the photo transistor.

3) Explain the Schottky Diode.

B) Attempt any one of the following:

04

1) Compare Conductor, Semiconductor, Insulator.

2) Compare BJT and FET.