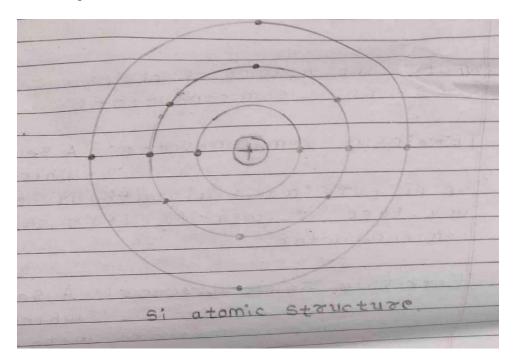
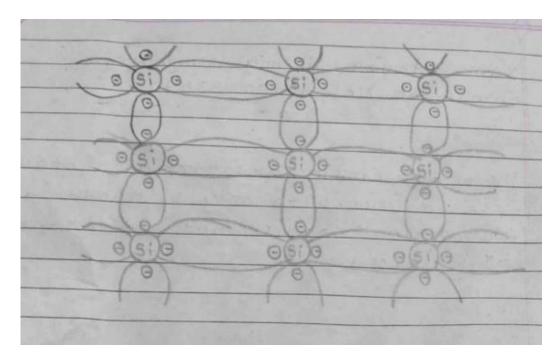


### Assignment-Semiconductors CO-1

Q-1 Draw the atomic structure of Si atom. Consider a crystal with only Si atoms, draw the covalent bonding and indicate the covalent bond.



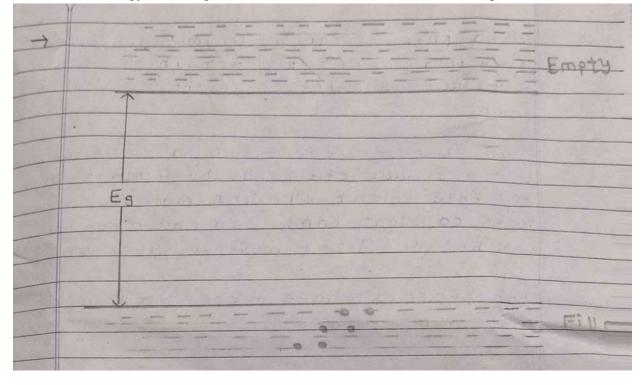




Q-2 What is the meaning of intrinsic semiconductor and extrinsic semiconductor?

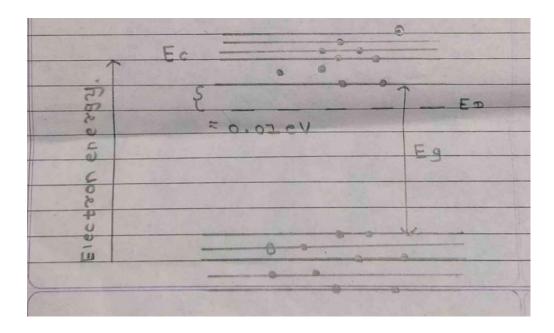
->	Intrinsic semiconductor: - A semiconductor
	up of pure motivial without any adding any type of impurity it is called intrinsic semiconductor.
$\rightarrow$	Extrinsic Semiconductor: A Semiconductor Which is made
	up of impure matirial with adding a som impurity, it is called extrinsic semiconductor.

Q-3 Draw the energy band diagram for intrinsic Si atoms when bounded together.





Q-4 Draw the energy band diagram for N-type semiconductor material and briefly explain that why do we have free electrons at room temperature?

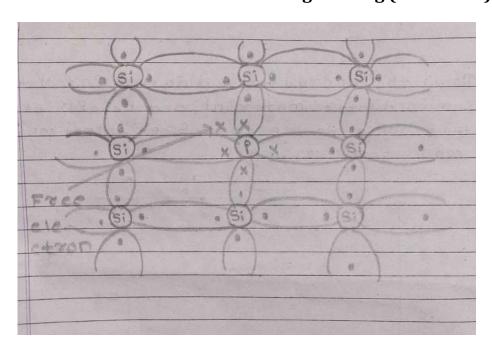


When fuse silicon as Gesmenium doffed with fenta-velent element which have five valened electron in their valened band.

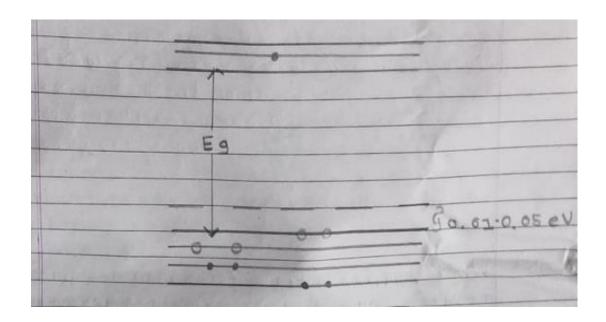
Pure silicon as Germenium have 4 electron in their valenced band, the 4 electrons of penta-velent directron material will make covelent band, and one electron will be considered as free electron.

Therefore, we have free electron at room temperature.





Q-5 Draw the energy band diagram for P-type semiconductor material and briefly explain its effect at room temperature?





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When pure silicon or Germenium dopped with
Tri-velent element which have Tri valenced
electron in their valened band.
FERNANCE PROPERTY AND ADDRESS OF THE PARTY AND
Prize silicon or Germenium have 4 elect 700
in their valenced band, the 3 electron of
tri valent matiral will make covelent bond
with three electron of silicon or Germe-
nium, and one electron is missing, and
it's called hole
one atom of impurity makes one hole
in that have other electron will come
and hole is made on other place
this process will continued and charen
will be formed.