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**Question Paper Code : 50431**

B.E./B.Tech./B.Arch. DEGREE EXAMINATION,  
NOVEMBER/DECEMBER 2017

Second Semester

Electronics and Communication Engineering

EC6201 – ELECTRONIC DEVICES

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. State the difference between drift and diffusion current densities.
2. Calculate the built in potential barrier in a pn junction diode having following specification :  $T = 300 \text{ K}$ ,  $N_a = 10^{18} \text{ cm}^{-3}$ ,  $N_d = 10^{15} \text{ cm}^{-3}$  and  $n_i = 1.5 \times 10^{10} \text{ cm}^{-3}$ .
3. Define Early effect.
4. State the reason behind the popularity of Common Emitter Configuration of BJT.
5. State the difference between BJT and FET.
6. Calculate the *Pinchoff voltage* of an *n-channel JFET* having following specification :  $T = 300 \text{ K}$ ,  $N_a = 10^{18} \text{ cm}^{-3}$ ,  $N_d = 10^{16} \text{ cm}^{-3}$  and metallurgical channel thickness  $a = 0.75 \mu\text{m}$ .
7. Define Snell's law.
8. State the significance of MOSFET devices.
9. State the difference between DIAC and TRIAC.
10. Define conversion efficiency of solar cell.

