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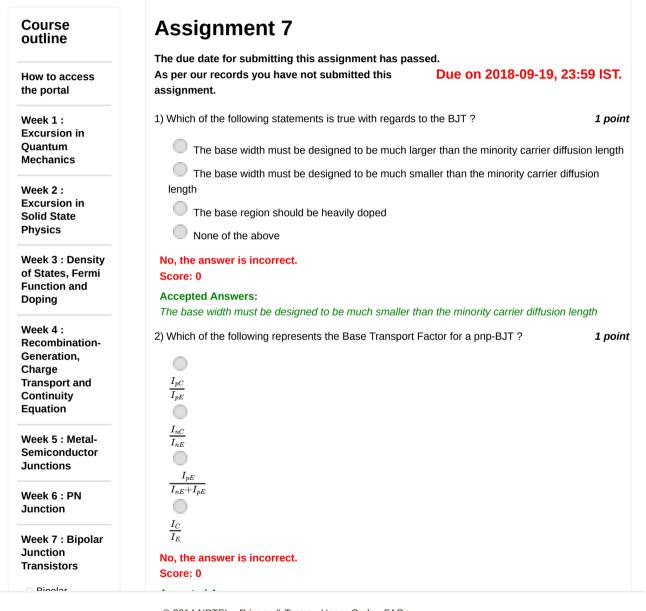
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Courses » Semiconductor Devices and Circuits

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Unit 8 - Week 7 : Bipolar Junction Transistors



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and Equivalent Circuit Modeling	7.5 uA 0.33 mA
Quiz : Assignment 7	0.33 MA 17 mA
Assignment 7: Solution	No, the answer is incorrect.
Week 8 : Metal Oxide Semiconductor Capacitor (MOSCAP) and CV Characteristics	Score: 0 Accepted Answers: 0.33 mA 4) To bias a BJT in the saturation mode, Base-Emitter Junction is biased and Collector-Base junction is biased.
Week 9: MOSFET: I	reverse, reverse reverse, forward
Week 10: MOSFET: II	forward, reverse forward, forward
Week 11: Circuits	No, the answer is incorrect. Score: 0
Week 12: Thin Film Transistors (TFTs), Tutorial	Accepted Answers: forward, forward
Sessions	5) Consider that the base transport factor in BJT is given by: $\alpha_T=\frac{1}{\cosh(\frac{x_B}{L_B})}$, where x_B is 1 point the base-width and L_B is the minority carrier diffusion length in base. Find out the base-width needed in a pnp BJT to achieve a base transport factor of $\alpha_T=0.9967$. Assume diffusion coefficient
	is $10cm^2/s$ and minority carrier lifetime in base is $10^{-7}s$ 0.81 um 2.35 um 0.2 um None of the above No, the answer is incorrect. Score: 0 Accepted Answers: 0.81 um 6) In a BJT biased in the active mode, the base current is 6 μ A, and the collector current is
	510 μA. Find the value of α. 0.5 0.92 0.988 0.965 No, the answer is incorrect. Score: 0 Accepted Answers:
	0.9887) Which of the following in the BJT is the heavily doped region?1 pointEmitter

Base Collector	
All the regions are equally doped	
No, the answer is incorrect. Score: 0	
Accepted Answers: Emitter	
8) Base-width modulation in a BJT results in:	1 point
an increase in output conductance of the device	
a decrease in output conductance of the device	
no change in output conductance	
none of the above	
No, the answer is incorrect.	
Score: 0 Accepted Answers:	
an increase in output conductance of the device	
9) A BJT is generally biased in mode of operation in analog amplifier circuits.	1 point
saturation	
Cut-off	
inverse-active	
active	
No, the answer is incorrect.	
Score: 0	
Accepted Answers:	
active	
10Early voltage represents the voltage at which:	1 point
preak-down occurs at the junctions.	
saturation of collector current begins.	
curves on collector-current characteristics intersect the voltage axis, when extrapolated to collector current value.	zero
none of the above	
No, the answer is incorrect. Score: 0	
Accepted Answers: curves on collector-current characteristics intersect the voltage axis, when extrapolated to ze current value.	ero collecto
Previous Page End	