

	PSC QUIZ 3 dt 10-11-2023	
	Name: _____ Roll No. _____	
Q1	Show the energy band diagram of a pn diode under reverse bias voltage V_a . Label the potential energy barriers.	
Q2	Plot the I-V characteristics of a p-n diode as a function of temperature.	
Q3	Plot the I-V characteristics of a Schottky diode.	
Q4	Plot the I-V characteristics of a tunnel diode.	
Q5	Distinguish Type-I and Type-II heterojunctions using energy band diagram.	

Q6	Define threshold voltage (V_{TH}) for n-MOSFET	
Q7	Define the trans-conductance of a MOSFET.	
Q8	Draw an energy band diagram of an npn transistor in inverse active mode of operation.	
Q9	Compare the performance of pn and pin photodiode.	
Q10	Draw the equivalent circuit of a pn diode.	
Q11	Define the base transport factor for a BJT.	
Q12	Draw an energy band diagram of a HEMT device.	
Q13	Draw the I-V characteristics of a MOSFET (n-channel, enhancement mode) and identify the different operation regions.	

