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BCS 124/BIT 126- ELECTRONICS CAT1 20/02/2023: ATTEMPT ALL QUESTIONS

1. By use of appropriate diagrams, briefly explain the formation and the working of a bipolar junction transistor **7 Marks**
2. Briefly explain the differences between a PN junction diode and a Zener diode use diagrams to support your explanation. **4 Marks**
3. Use appropriate diagrams to explain the working of a Full Wave Bridge rectifier, including a smoothing circuit. **5 Marks**
4. Briefly explain the need of biasing in semiconductor devices, use illustration diagrams. **4 Marks**
5. Sketch and briefly explain a typical voltage/current characteristics for i) a forward-biased silicon pn-junction diode and ii) a reverse-biased pn junction diode. **4 Marks**
6. Identify the components that constitute the dc load in a BJT bias circuit and explain the procedure for drawing the dc load line on the transistor CE output characteristics. **5 Marks**