1. What is the resistor color code for a 5.1 MΩ resistor with 10% tolerance?

2. What is the capacitance of a cap marked “335J”?

3. What is a voltage gain of +4 in dB?

4. What is \( \frac{V_{\text{out}}}{V_{\text{in}}} \) as a percentage if the attenuation is -20 dB?

5. Draw a full-wave rectifier labeling Vin and Vout.

6. Draw a common emitter amp labeling all parts. What is the output impedance?

7. Design using only transistors an audio amp with gain = +6 to drive a 100 kΩ load.

8. The Bode plot for a low-pass filter has a straight line after rolloff with slope -6bD per octave. Explain the preceding statement in detail. Include something like: if the frequency changes by \___________\ then the output voltage changes by \___________\.

9. What is the output of this circuit if the input is 10mV sin(100 t)? Draw the input and output vertically displaced on the same horizontal time axis (like scope traces). Explain in detail how the circuit works.