Date: 18-11-2024

LGS GROUP OF COLLEGES

Physics | Assignment | XII (A)

TEST# WK-8

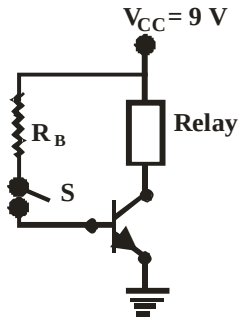
Topic: 18.7 to 18.14	Name:……	Roll No:
Time: 35 mins		Marks =15

Q1. Draw a circuit of OP amp and show that under virtual ground conditions V_- and V_+ are approximately equal. (02)

Q2. Draw circuit diagram of OP amp as night switch and write down the expressions of V_- and V_+. (02)

Q3. How a NAND gate can be used as NOT gate, draw diagram and truth table. (02)

Q4. Fig. shows a transistor which operates a relay as the switch S is closed. The relay is energized by a current of 10 mA. Calculate the value R_B which will just make the relay operate. The current gain β of the transistor is 100. When the transistor conducts, its V_{BE} can be assumed to be 0.6 V. (03)



Q5. Draw Boolean diagram and truth table of $X = (A + \bar{B})(\bar{A} + B)$. (03)

Q6. Draw a pressure and temperature control system of a boiler with the help of OR gate with help of diagram and truth table. (03)