

Katwa College
Internal Examination 2022
SEM-VI (General)
Sub: Physics
Paper: DSE 1B
DIGITAL, ANALOG CIRCUITS AND INSTRUMENTATION

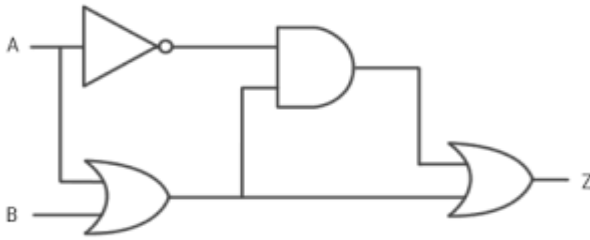
Full Marks: 10

Time: -- min

Answer any 5 questions:

5x2=10

1. a. $(896)_{10} = (?)_2$
b. $(11011)_2 = (?)_{10}$
2. Simplify the Boolean expression: $ABC + A' + AB'C$ and draw the logic circuit of the simplified expression.
3. Design NOR gate using NAND gate.
4. Write the expression of the logic circuit below.



5. What is potential barrier (বিভব প্রতিবন্ধক) of a PN junction?
6. What is rectifier? Draw a Circuit diagram of a full wave rectifier.
7. Derive the relation between transistor's α and β .
8. Draw the self bias (স্বয়ং বায়াস) circuit of transistor amplifier.