

SAGAR MAHAVIDYALAYA

INTERNAL EVALUATION-2020

B.SC(General)(1+1+1 SYSTEM)

Subject-PHSG (Part-II)

Paper-IIIA & IIIB (Prac.)

Time:1pm-3:30pm

full marks:50

MODULE-I (IIIA)

- **Attempt four questions from group A & five from group B.**

Group-A

5×4=20

1. Explain the forward bias of a normal P-N junction diode.
2. Why NAND & NOR gates are universal gate?
3. State D-Morgan's theorem.
4. Explain the working of Half-wave rectification using diode.
5. Distinguish P-type & N-type semiconductors.
6. Draw the block diagram of NAND gate & write down its truth table.

Group-B

1×5=5

1. What is P-type diode?
2. What is N-type diode?
3. What is the main use of a Zener diode?
4. What is the basic difference between normal P-N junction & Zener diode?
5. Write down the truth table of OR gate.
6. Write down the truth table of AND gate.
7. What is the term 'voltage gain' used in transistor circuit?

MODULE-II (IIIB)

- **Answer the following questions.**

$12\frac{1}{2} \times 2 = 25$

1. Write down the working formula of a zener diode to study its voltage regulation characteristics .
2. Write down the truth table and block diagram of various logic gates(OR Gate ,AND Gate ,NOT Gate).