

**INTERNAL ASSESMENT 2021
KANDI RAJ COLLEGE
DEPARTMENT OF PHYSICS**

**SEMESTER: 6th
PAPER CODE: PHY-G-DSE-T-02**

**STREAM: General (Program Course)
Paper: DIGITAL, ANALOG CIRCUITS AND
INSTRUMENTATION**

Full marks: 10

Time: 45 min

Answer any five questions:

5×2=10

1. What are the differences between Analog and Digital circuits?
 2. Convert the decimal number 35 to its binary equivalent.
 3. Add the binary numbers 11010 and 10011 using binary adders.
 4. Draw and explain the OR gate using Diodes.
 5. Why NAND gate is called a universal gate? Explain.
 6. Draw the input and output Characteristics of a CE mode transistor.
 7. Simplify the Boolean expression $\bar{A}BC + A\bar{B}C + AB\bar{C} + ABC$.
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PAPER CODE: PHY-G-SEC-T-04

Paper: RADIATION SAFETY

Full marks: 05

Answer any five questions:

5×1=5

1. What is the full form of MRI ?
2. Give an example of pair-production ?
3. State two biological effects of ionizing radiation?
4. What is Bremsstrahlung.
5. What is the relationship between rad and Gy ?
6. Define binding energy of an atom ?
7. "GM counter can not detect neutrons." Why ?

