GALGOTIAS UNIVERSITY

| ADMISSION NUMBER |
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# School of University Polytechnic

**Diploma in Computer Science and Engineering**
**Semester End Examination - Jul 2024**

**Duration : 180 Minutes**
**Max Marks : 100**

## Sem III - N1DK320B - Fundamentals of Electronic Devices and Digital Electronics

*General Instructions*
*Answer to the specific question asked*
*Draw neat, labelled diagrams wherever necessary*
*Approved data hand books are allowed subject to verification by the Invigilator*

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| **1)** | What is transistor?Why it is so called? | K1(2) |
| **2)** | Illustrate the properties of boolean algebra with proof. | K2(4) |
| **3)** | Explain the working of varactor diode. | K2(6) |
| **4)** | Implement the following function using a multiplexer<br>F (A, B ,C) = (0, 1, 3, 4, 8, 9, 15) | K3(9) |
| **5)** | Identify the distinct features of SR, JK, and D flip-flops. Apply your understanding to construct a comparison chart outlining their characteristics and capabilities. | K3(9) |
| **6)** | Appraise the fundamental purpose of a decoder in digital circuits and categorize the main types of decoders based on input and output configurations. | K5(10) |
| **7)** | Examine the designing of mod-6 counter. | K4(12) |
| **8)** | Elaborate zener diode. | K5(15) |
| **9)** | Appraise SR flip-flop. | K5(15) |
| **10)** | Elaborate input and output characteristics of Common Base configuration. | K6(18) |