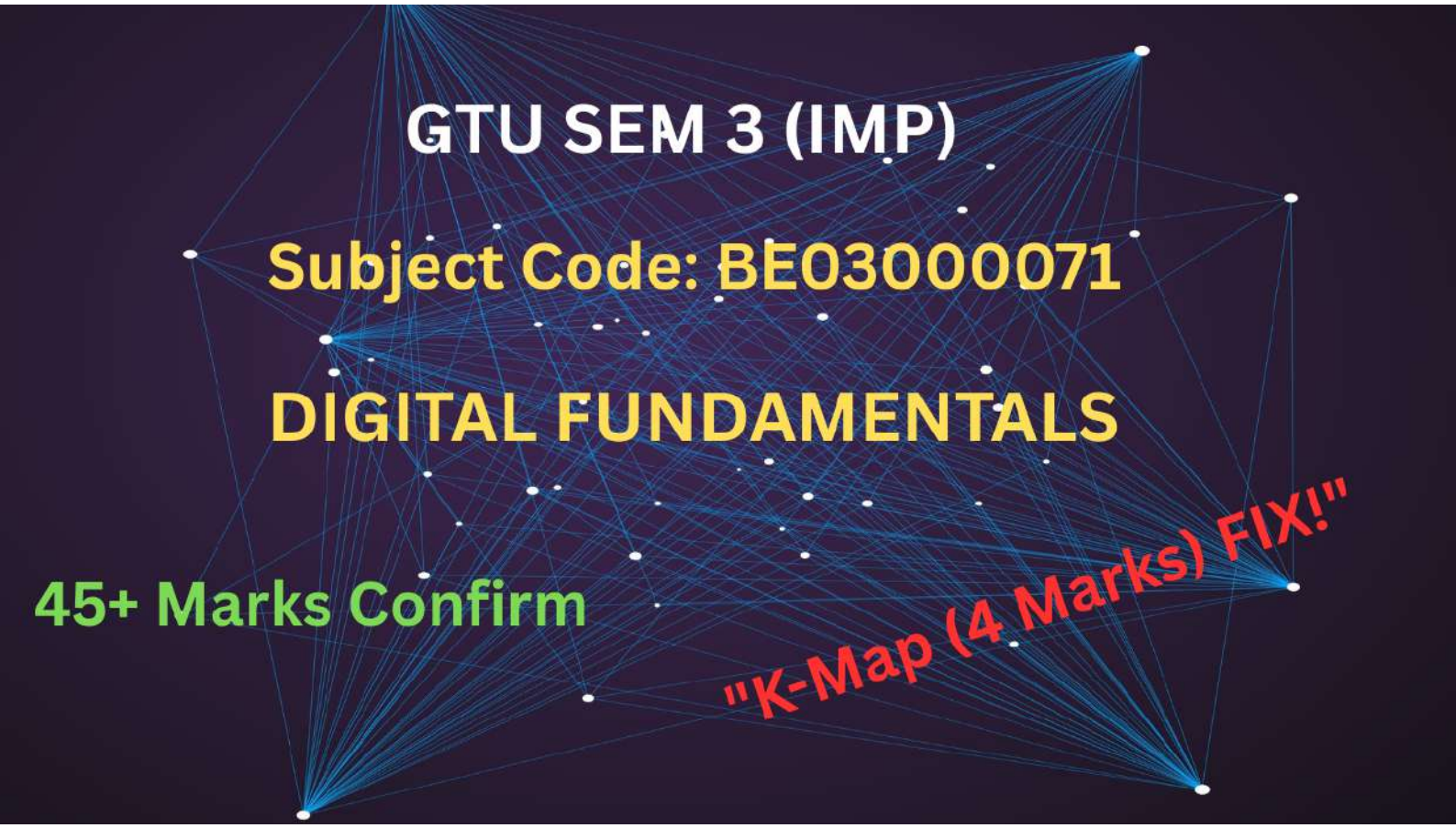
GTU SEM 3 (IMP)
Subject Code: BE03000071
DIGITAL FUNDAMENTALS
45+ Marks Confirm
"K-Map (4 Marks) FIX!"

GTU Digital Fundamentals (DF)

SPECIALLY SEM 3

First Session: Must Prepare

Numerical Questions (3-4 marks):

1. K-Map Simplification (3-4 variables) (GUARANTEED!)
2. Number System Conversion (Binary, Octal, Hex, Decimal) (GUARANTEED!)
3. 2's Complement Arithmetic

Theory Questions (7 marks each):

4. Universal Gates (NAND/NOR Implementation)
5. BCD to Excess-3 Code Converter
6. Counter Design (Synchronous/Asynchronous)
7. D/A Converter (R-2R Ladder)
8. Full Adder Design
9. PLA Implementation

Short Questions (3-4 marks):

10. Flip-Flop Conversion (JK↔D, SR↔D, T↔D)
11. De-Morgan's Theorem (Proof)
12. ROM Implementation (Boolean Functions)
13. A/D Converter (Successive Approximation)
14. Shift Register (Bidirectional)
15. Logic Families (TTL vs CMOS)

Second Session: Very Important

16. Multiplexer Implementation (Boolean Functions)
17. Magnitude Comparator (2-bit)
18. Master-Slave JK Flip-Flop
19. Binary to Gray Code Converter
20. 4-bit Parallel Adder
21. SRAM vs DRAM
22. FPGA
23. Decoder Implementation
24. Ring Counter
25. Race Around Condition

ALL THE BEST

THANK YOU