

Roll No



NATIONAL INSTITUTE OF TECHNOLOGY GOA

Farmagudi, Ponda, Goa, 403401

Programme Name: B.Tech

Test-1

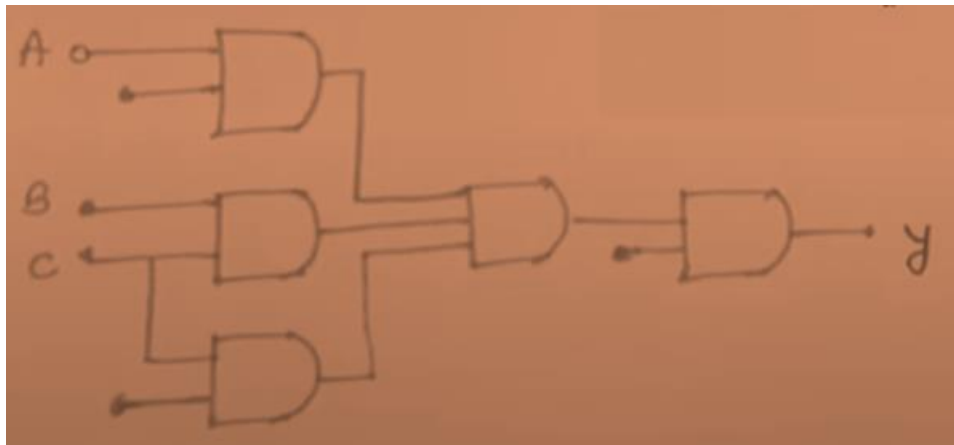
CS 250

Max Marks: 20 marks.

Time : 30 min.

Answer all questions

- 1's and 16's complement in Hexadecimal System, $(2BCDE)_{16}$ (1)
- Convert Binary number $(110011001)_2 \longrightarrow (?)_{BCD}$ (2)
- Find minimal decimal Equivalent of $(731)_x$ (1)
- 100110110001111100111 converts into Find the ASCII code (2)
- Convert 01101011 gray code into Binary code. (2)
- Express $P = XY\bar{Z} + X\bar{Y}\bar{Z} + YZ$ (1.5)
- $F = AB + BC + AC$, Find given function F is self-dual or not. (1.5)
- POS to SPOS conversion: $F(A,B,C) = (A+B)(\bar{A}+C)(\bar{A}+\bar{B}+C)$ (1.5)
- For TTL Logic find y ? (1.5)



10. If we have 4 input NAND gates, then how many 2 I/p NAND gates are required to implement it. (2)
11. Construct XOR gate by NAND gate. (2)
12. Add the following. (2)

$(2FCD)_{16}$	$(AF2)_{16}$	$(01110)_2$
$+(3A2B)_{16}$	$+(35C)_{16}$	$+(10110)_2$
$+(123A)_{16}$		$+(10111)_2$