

# IE1204 Digital Design Answer Form 2022-2023

Full Name		Personal Number		Program		
Exam 2022-10-28		YYYYMMDD-XXXX		NN		
#	Answer with	Answer				Points
1	Decimal number	84				1
2	8 bit two's complement binary number	0	1	1	1	1
3	8 bit two's complement binary number	1	0	1	1	1
4	Circuit number(s)	#1				1
5	Boolean expression, Y =	$B \cdot C \cdot D + \bar{C} \cdot \bar{D} + A \cdot B$				1
6	Boolean expression, Y =	$\bar{B} \cdot \bar{D} + \bar{A} \cdot B \cdot C \cdot D + A \cdot B \cdot \bar{C} \cdot D$				1
7	MUX connections, Boolean expression or Gate	$\overline{A \oplus B}$				1
	Row CD = 00	$A \cdot \bar{B}$				
	Row CD = 01	$A \cdot B$				
	Row CD = 10	$\bar{A}$				
8	Timing diagram					1
9	Timing diagram					1
10	Propagation delay $t_{pd} \leq$	130 ps				1
	Contamination delay $t_{cd} >$	35 ps				1
11	Next state $Q_3Q_2Q_1Q_0 =$	0101				1
12	Boolean expression or Gate, Y =	$Q_2 \cdot Q_1$				1
13	16 bit two's complement hexadecimal Product A x B	P	12DA			1
14	8 bit two's complement hexadecimal Quotient (A / B) and Remainder	Q	3	R	1	1
15	8 result bits ( $S_7 S_6 S_5 S_4 S_3 S_2 S_1 S_0$ )	1	0	1	0	1
16	Shift register contents, 8 bits	1	1	1	0	1
TOTAL POINTS		Examiner sign				16