

IE1204 Digital Design Answer Form 2021-2022

Full Name		Personal Number	Program																													
#	Answer with	Answer	Points																													
1	Hexadecimal number																															
2	8 bit two's complement binary number	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>																														
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4	Circuit number(s)																															
5	Boolean expression, Y =																															
6	Boolean expression, Y =																															
7	MUX connections																															
	Row CD = 00																															
	Row CD = 01																															
	Row CD = 10																															
	Row CD = 11																															
8	Timing diagram																															
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">0 ms</td> <td style="width: 10%; text-align: center;">5 ms</td> <td style="width: 10%; text-align: center;">10 ms</td> <td style="width: 10%; text-align: center;">15 ms</td> <td style="width: 10%; text-align: center;">20 ms</td> <td style="width: 10%; text-align: center;">25 ms</td> <td style="width: 10%; text-align: center;">30 ms</td> <td style="width: 10%; text-align: center;">35 ms</td> <td style="width: 10%; text-align: center;">40 ms</td> <td style="width: 10%; text-align: center;">45 ms</td> </tr> <tr> <td>CLK</td> <td colspan="9"></td> </tr> <tr> <td>Q</td> <td colspan="9"></td> </tr> </table>	0 ms	5 ms	10 ms	15 ms	20 ms	25 ms	30 ms	35 ms	40 ms	45 ms	CLK										Q										
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CLK																																
Q																																
10	Maximum clock frequency =	Hz																														
11	Next state $Q_D Q_C Q_B Q_A =$																															
12	16 bit two's complement Product A x B	MSB																														
		LSB																														
13	8 bit two's complement Quotient A / B																															
	Remainder																															
14	Decimal number																															
15	5 result bits (S4 S3 S2 S1 S0)	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>																														
16	ALUControl (2 bits)	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>																														
TOTAL POINTS		Examiner sign																														