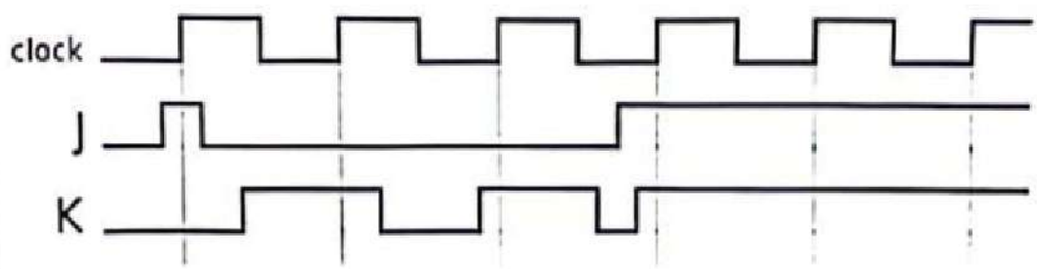
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Daffodil International University

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Final Examination, Spring 2023
Course Code: 223, Course Title: Digital Electronics
Level: 2 Term: 2 Batch: 60

Time: 02:00 Hrs **Marks: 40**

Answer ALL Questions

1.		Suppose, you are designing a digital audio system that allows users to switch between four different audio sources: Source M, Source N, Source P, and Source Q. User can listen to music from one audio source at a time according to the combination of his choice. Now design the circuit that can handle this audio selection process by providing the truth table and logical expression of the output.	[10]	CO2
2.	a)	Construct 4 to 11 line decoder circuit.	[5]	CO3
	b)	Construct 4 to 2 line Priority Encoder where I_0 holds top priority.	[5]	
	c)	Solve the following Boolean function implement with a multiplexer where variable A, B are Input and C, D are considered as selector. $F(A, B, C, D) = \sum(0, 1, 4, 6, 9, 11, 12, 15)$	[5]	
3.	a)	Compare sequential circuit and combinational circuit.	[5]	CO4
	b)	Determine the output states Q and Q' for J-K flip flop, given the following pulse inputs. 	[10]	