# LUCRAREA DE LABORATOR nr. 8

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**Elemente combinaţionale: multiplexor, demultiplexor**

# Scopul lucrării:

1. Studierea elementelor combinaţionale (multiplexorul, demultiplexorul) în regim static.
2. Studierea elementelor combinaţionale (multiplexorul, demultiplexorul) în regim dinamic.

# Experimentul nr. 1. Multiplexorul

1. **Regim static.**

Tabel 1. Tabelul de adevar al multiplexorului din 8 in 1

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **E** | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|  | X | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
|  | X | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
|  | X | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| **I** | 0 |  |  |  |  |  |  |  |  |

Functia logica a multiplexorului din 8 in 1:

I =

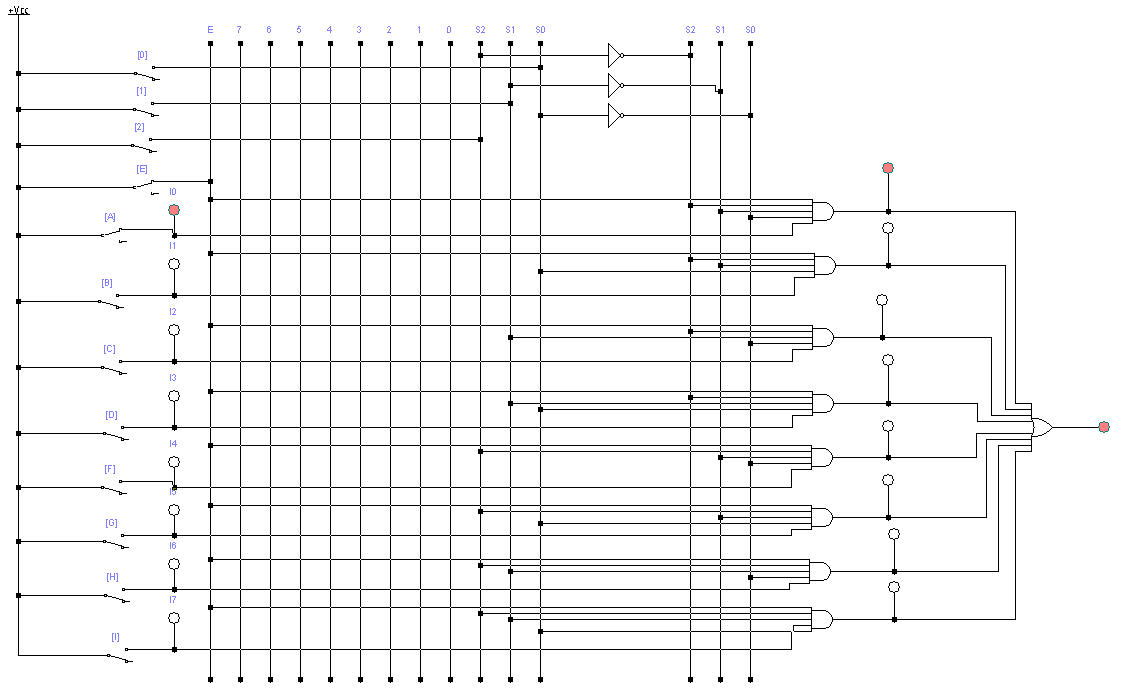
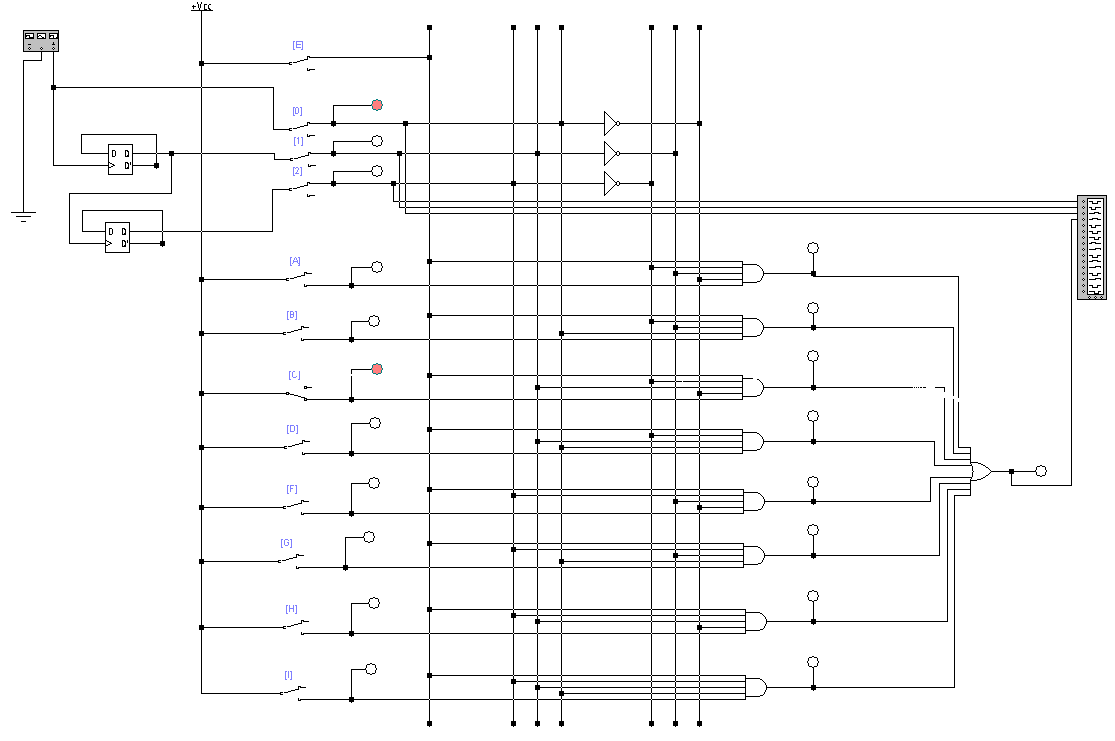


Fig. 1. Schema electrica a multiplexorului (regim static)

1. **Regim Dinamic**



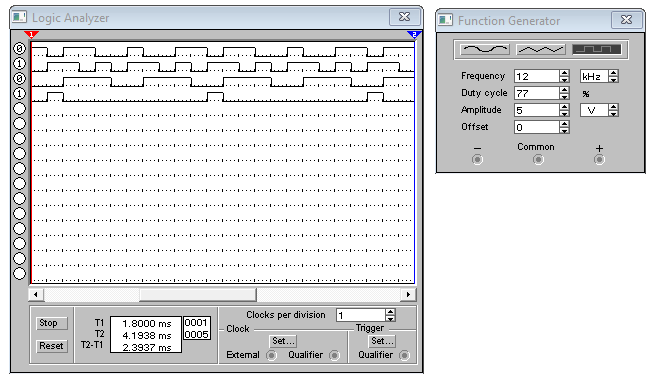


Fig. 2. Schema electrica a multiplexorului (regim dinamic)

**Experimentul nr. 2. Demultiplexorul**

1. **Regim static.**

Tabel 2. Tabelul de adevar al demultiplexorului din 1 in 8

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|  | x | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
|  | x | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
|  | x | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
|  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | I |
|  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | I | 0 |
|  | 0 | 0 | 0 | 0 | 0 | 0 | I | 0 | 0 |
|  | 0 | 0 | 0 | 0 | 0 | I | 0 | 0 | 0 |
|  | 0 | 0 | 0 | 0 | I | 0 | 0 | 0 | 0 |
|  | 0 | 0 | 0 | I | 0 | 0 | 0 | 0 | 0 |
|  | 0 | 0 | I | 0 | 0 | 0 | 0 | 0 | 0 |
|  | 0 | I | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Functia logica a demultiplexorului din 1 in 8:

I7 = ;

I6 = ;

I5 = ;

I4 = ;

I3 = ;

I2 = ;

I1 = ;

I0 = ;

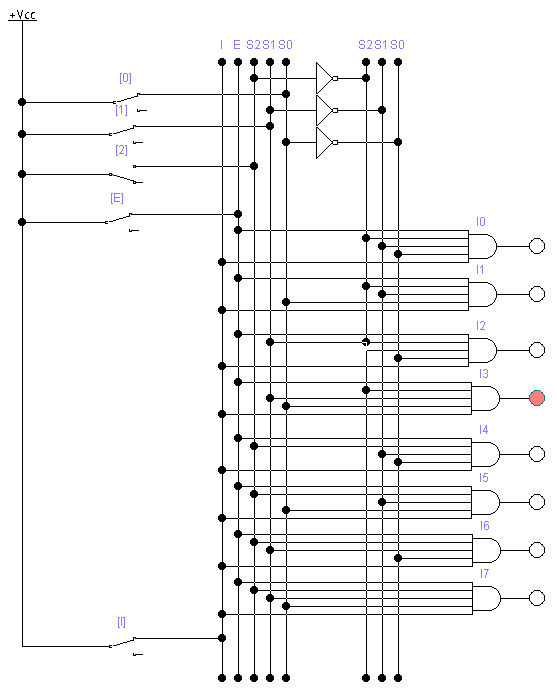
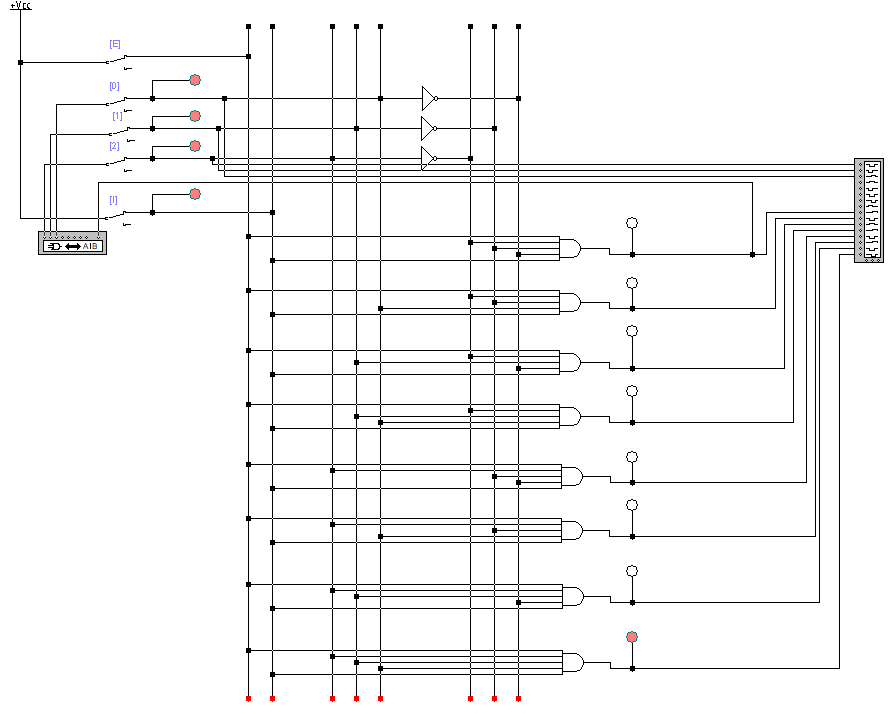


Fig. 3. Schema electrica a demultiplexorului (regim static)

1. **Regim Dinamic**



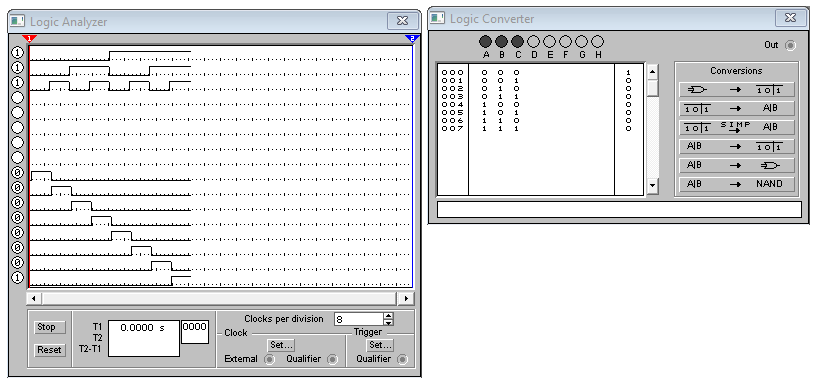


Fig. 4. Schema electrica a multiplexorului (regim dinamic)