GSI510 – Sistemas Digitais
Prof. Dr. rer. nat. Daniel Duarte Abdala

Lista 7 – Mapas de Veitch-Karnaugh

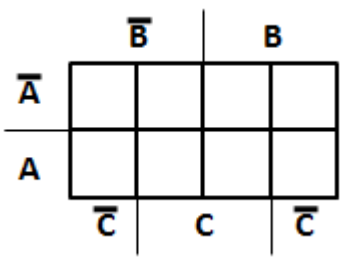
Matricula:_____ Nome: _____

1. Simplifique a seguinte expressão Booleana $\overline{A + BC}.D + \overline{AB}$ via manipulação algébrica.

Expressão	Identidade
expressão:	

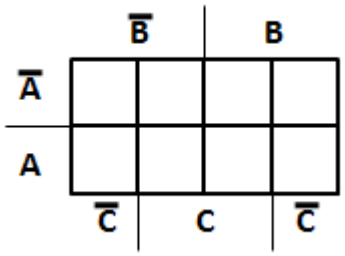
2. Simplifique via mapa de Veitch-Karnaugh a seguinte tabela verdade:

A	B	C	S
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	0



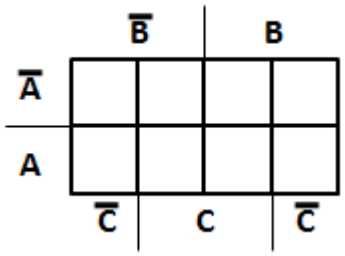
3. Simplifique via mapa de Veitch-Karnaugh a seguinte tabela verdade:

A	B	C	S
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0



4. Simplifique via mapa de Veitch-Karnaugh a seguinte tabela verdade:

A	B	C	S
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	-
1	1	0	-
1	1	1	-

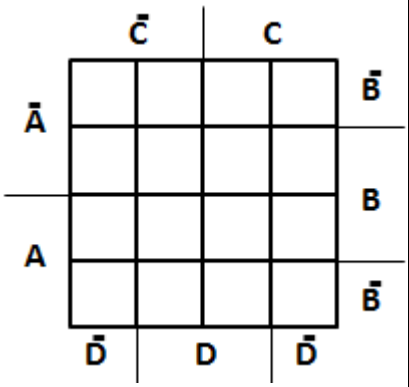


Obs: - significa don't care!

GSI510 – Sistemas Digitais
Prof. Dr. rer. nat. Daniel Duarte Abdala

5. Simplifique via mapa de Veitch-Karnaugh a seguinte tabela verdade e construa o circuito mínimo:

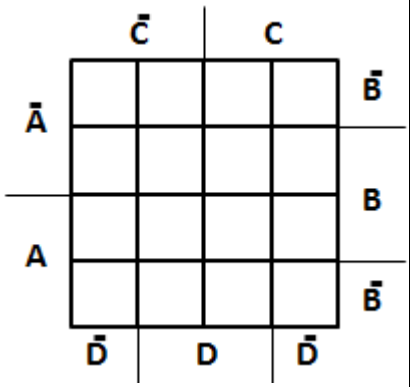
A	B	C	D	S
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
0	1	0	0	0
0	1	0	1	0
0	1	1	0	0
0	1	1	1	0
1	0	0	0	1
1	0	0	1	1
1	0	1	0	1
1	0	1	1	1
1	1	0	0	1
1	1	0	1	0
1	1	1	0	1
1	1	1	1	1



A B C D

6. Simplifique via mapa de Veitch-Karnaugh a seguinte tabela verdade e construa o circuito mínimo:

A	B	C	D	S
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
0	1	0	0	0
0	1	0	1	1
0	1	1	0	1
0	1	1	1	1
1	0	0	0	1
1	0	0	1	1
1	0	1	0	-
1	0	1	1	-
1	1	0	0	-
1	1	0	1	-
1	1	1	0	-
1	1	1	1	-

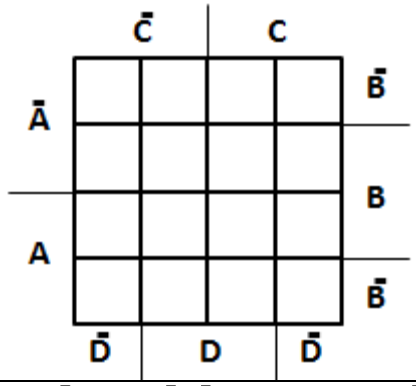


A B C D

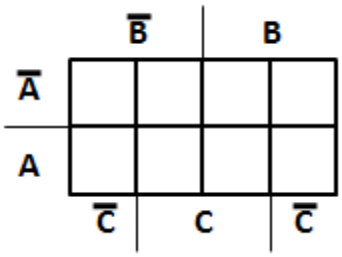
Obs: - significa don't care!

7. Minimize as expressões abaixo usando para tal o diagrama de Veitch-Karnaugh:

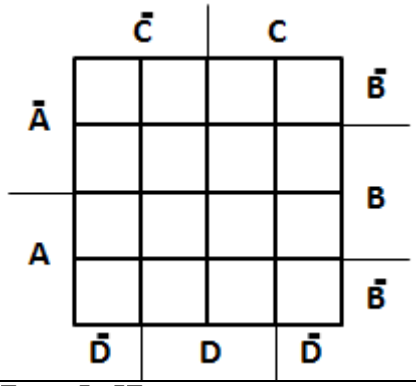
a) $\bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}\bar{C}D + \bar{A}\bar{B}C\bar{D} + \bar{A}\bar{B}CD + A\bar{B}\bar{C}\bar{D} + A\bar{B}\bar{C}D$



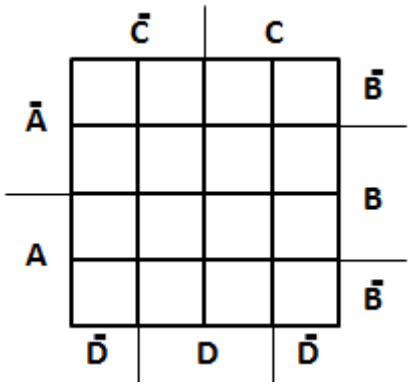
b) $(\bar{A}\bar{B}C) + (\bar{A}BC) + (\bar{A}B\bar{C}) + (ABC) + (AB\bar{C})$



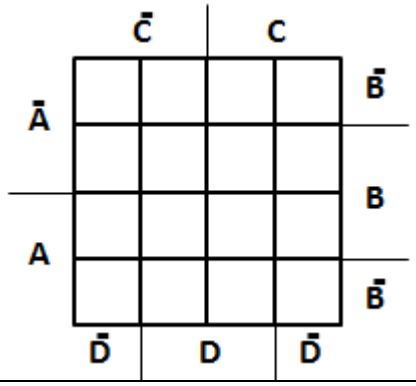
c) $\overline{A\bar{B}C\bar{D}} + (\bar{A}\bar{B}\bar{C}D) + (\bar{A}B\bar{C}D) + (\bar{A}BC\bar{D})$



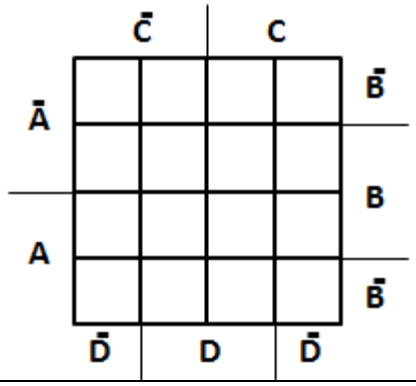
d) $(\bar{A}\bar{B}\bar{C}\bar{D}) + (\bar{A}B\bar{C}\bar{D})$



e) $\overline{ABCDE} + \overline{\overline{ABC}} + \bar{D}E + \bar{C}D + \bar{A}D + \overline{AB}$



f) $\overline{A\bar{B}CD} + \overline{CD} + \overline{\overline{AB}}$



E tem gente que diz que matrizes só servem mesmo para ser tema de filmes!!!!!!