

|                | P(a) | SM(b) | M(c) | A(d) |             |            |
|----------------|------|-------|------|------|-------------|------------|
| 1ère condition | 1    | 1     | 1    | 1    | P.SM.M.A    | a.b.c.d    |
| 2ème condition | 0    | 0     | 1    | 0    | !P.!SM.M.!A | !a.!b.c.!d |
|                | 0    | 0     | 1    | 1    | !P.!SM.M.A  | !a.!b.c.d  |
| 3ème condition | 0    | 1     | 0    | 1    | !P.SM.!M.A  | !a.b.!c.d  |
|                | 1    | 1     | 0    | 1    | P.SM.!M.A   | a.b.!c.d   |
| 4ème condition | 1    | 0     | 1    | 0    | P.!SM.M.!A  | a.!b.c.!d  |
|                | 1    | 0     | 1    | 1    | P.!SM.M.A   | a.!b.c.d   |
| 5ème condition | 0    | 1     | 1    | 1    | !P.SM.M.A   | !a.b.c.d   |
| 6ème condition | 0    | 1     | 1    | 0    | !P.SM.M.!A  | !a.b.c.!d  |
|                | 1    | 1     | 1    | 0    | P.SM.M.!A   | a.b.c.!d   |

$$/a./b.c./d \text{ xor } /a./b.c.d = /a./b.c$$

$$/a.b./c.d \text{ xor } a.b./c.d = b./c.d$$

$$a./b.c./d \text{ xor } a./b.c.d = a./b.c$$

$$/a.b.c./d \text{ xor } a.b.c./d = b.c./d$$

$$a.b.c.d + /a.b.c.d = b.c.d$$

$$/a./b.c + a./b.c = /b.c$$

$$b.c.d + b.c./d = b.c$$

$$b.c + /b.c = c$$

$$a.b.c.d + /a./b.c./d \text{ xor } /a./b.c.d + /a.b./c.d \text{ xor } a.b./c.d + a./b.c./d \text{ xor}$$

$$a./b.c.d + /a.b.c.d + /a.b.c./d \text{ xor } a.b.c./d$$

$$= a.b.c.d + /a./b.c + b./c.d + a./b.c + /a.b.c.d + b.c./d$$

$$= b.c.d + /b.c + b./c.d + b.c./d$$

$$= b.c + /b.c + b./c.d$$

$$= c + b./c.d$$

$$= (b.d) + c = (SM.A) + M$$