S-BOX1 = $[12, 4, 6, 2, 10, 5, 11, 9, 14, 8, 13, 7, 0, 3, 15, 1]$

A. In field $cx^0 + ex^1 + 7x^2 + ex^3 + 5x^4 + 6x^5 + ax^6 + 7x^7 + 5x^8 + 7x^9 + cx^{10} + ex^{11} + 9x^{12} + 3x^{13} + bx^{14}$

deg = 14

B. In Ring

0	1	2	3	4	5	6	7
12	-8	10	-16	34	-77	169	-353
8	9	10	11	12	13	14	15
706	-1372	2635	-5076	9890	-19470	38383	-74890

Not Polinomial at index r = 4

S-BOX2 = $[6, 8, 2, 3, 9, 10, 5, 12, 1, 14, 4, 7, 11, 13, 0, 15]$

A. In field

$f(x) = 6x^0+cx^1+9x^2+fx^3+dx^4+ax^5+ex^6+3x^7+bx^8+8x^9+5x^{10}+3x^{11}+ex^{12}+9x^{13}+cx^{14}$

deg = 14

B. In Ring

0	1	2	3	4	5	6	7
6	2	-8	15	-17	9	8	-15
8	9	10	11	12	13	14	15
-55	389	-1455	4335	-11361	27242	-60946	128762

Not Polinomial at index r = 3

S-BOX3 = $[11, 3, 5, 8, 2, 15, 10, 13, 14, 1, 7, 4, 12, 9, 6, 0]$

$f(x) = bx^0+bx^1+bx^2+4x^3+fx^4+3x^5+8x^6+ex^7+ax^8+2x^9+ex^{10}+6x^{11}+1x^{12}+cx^{13}+bx^{14}$

deg = 14

B. In Ring

0	1	2	3	4	5	6	7
11	-8	10	-9	-1	39	-142	373
8	9	10	11	12	13	14	15
-831	1649	-2947	4679	-6265	5809	1461	-26182

Not Polinomial at index r = 3

S-BOX4 = $[12, 8, 2, 1, 13, 4, 15, 6, 7, 0, 10, 5, 3, 14, 9, 11]$

$f(x) = cx^0+8x^1+ex^2+9x^3+1x^4+5x^5+fx^6+dx^7+8x^8+9x^9+4x^{10}+fx^{11}+2x^{12}+4x^{13}+1x^{14}$

deg = 14

B. In Ring

0	1	2	3	4	5	6	7
12	-4	-2	7	1	-43	160	-433
8	9	10	11	12	13	14	15
1013	-2169	4379	-8521	16271	-30873	58473	-110114

Not Polinomial at index r = 3

S-BOX5 = $[7, 15, 5, 10, 8, 1, 6, 13, 0, 9, 3, 14, 11, 4, 2, 12]$
$f(x) = 7x^0+ax^1+2x^2+dx^3+4x^4+dx^5+cx^6+cx^7+ex^8+9x^9+1x^{10}+6x^{11}+bx^{12}+5x^{13}+ax^{14}$
deg = 14

B. In Ring

0	1	2	3	4	5	6	7
7	8	-18	33	-55	79	-88	55
8	9	10	11	12	13	14	15
35	-121	-77	1349	-5566	16767	-43144	100494

Not Polinomial at index r = 3

S-BOX6 = $[5, 13, 15, 6, 9, 2, 12, 10, 11, 7, 8, 1, 4, 3, 14, 0]$
$f(x) = 5x^0+1x^1+0x^2+7x^3+5x^4+fx^5+9x^6+1x^7+1x^8+9x^9+0x^{10}+2x^{11}+9x^{12}+3x^{13}+cx^{14}$
deg = 14

B. In Ring

0	1	2	3	4	5	6	7
5	8	-6	-5	28	-73	167	-366
8	9	10	11	12	13	14	15
770	-1546	2969	-5504	9983	-17994	32724	-60768

Not Polinomial at index r = 3

S-BOX7 = $[8, 14, 2, 5, 6, 9, 1, 12, 15, 4, 11, 0, 13, 10, 3, 7]$
$f(x) = 8x^0+3x^1+3x^2+1x^3+6x^4+4x^5+3x^6+ax^7+0x^8+1x^9+cx^{10}+fx^{11}+8x^{12}+4x^{13}+2x^{14}$
deg = 14

B. In Ring

0	1	2	3	4	5	6	7
8	6	-18	33	-50	71	-109	207
8	9	10	11	12	13	14	15
-465	1061	-2234	4161	-6582	7867	-2925	-21122

Not Polinomial at index r = 3

S-BOX8 = $[1, 7, 14, 13, 0, 5, 8, 3, 4, 15, 10, 6, 9, 12, 11, 2]$

$f(x) = 1x^0+9x^1+2x^2+5x^3+8x^4+2x^5+6x^6+1x^7+0x^8+7x^9+1x^{10}+6x^{11}+9x^{12}+1x^{13}+dx^{14}$
deg = 14

B. In Ring

0	1	2	3	4	5	6	7
1	6	1	-9	5	29	-113	261
8	9	10	11	12	13	14	15
-467	695	-899	1116	-1686	3651	-9367	23326

Not Polinomial at index r = 2