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Text to be Deciphered : YGMYHEGVARFDZEPU

$a=5, b=7$

using Euclidean method;

$27 = 5(5) + 2$

$5 = 2(2) + 1$

$2 = 2(1) + 0$

$1 = 5 - 2(2)$

$1 = 5 - 2(27 - 5 \cdot 5) \rightarrow 1 = 5 - 2 \cdot 27 + 10 \cdot 5$

$$1 = 11 \cdot 5 - 2 \cdot 27$$

$\therefore a^{-1} = 11$

| Cipher Text | Y | G | M | Y | H | E | G | V | A | R | F | D | Z | E | P | U |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| y | 25 | 7 | 13 | 25 | 8 | 5 | 7 | 22 | 1 | 18 | 6 | 4 | 26 | 5 | 16 | 21 |
| $11(y-7)$ | 198 | 0 | 66 | 198 | 11 | -22 | 0 | 165 | -66 | 121 | -11 | -33 | 209 | -22 | 99 | 154 |
| $11(y-7) \bmod 27$ | 9 | 0 | 12 | 9 | 11 | 5 | 0 | 3 | 15 | 13 | 16 | 21 | 20 | 5 | 18 | 19 |
| original Text | I | ( ) | L | I | K | E | ( ) | C | O | M | P | U | T | E | R | S |

$\therefore$ original Text : I LIKE COMPUTERS