TOPIC
Economics – Section VI – Question 1

QUESTION
A loan-shark company provides loans and charges an interest of 5% per month. If the interest is compounded monthly, the effective interest rate for the year most nearly is
    (A) 60.00%
    (B) 64.34%
    (C) 78.58%
    (D) 79.58%

HINT
The effective interest rate per year is given by $(1 + i)^m - 1$, where m is the number of months, and i is the interest rate per month in fraction.

SOLUTION
The interest rate per month in fraction is
$$i = \frac{5}{100}$$
$$= 0.05$$
$$m = 12$$
The effective interest rate then is
$$= (1 + i)^m - 1$$
$$= (1 + 0.05)^{12} - 1$$
$$= 79.58\%$$

ANSWER
(D)

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