

**TOPIC**

Mathematics – Section I – Question 11

**QUESTION**

The value of  $y(5)$  using Euler's method to solve the ordinary differential equation

$$\frac{dy}{dx} + 2y = x^2, y(1) = 5$$

with a step size of  $h = 2$  most nearly is

(A)  $-13.00$

(B)  $21.25$

(C)  $53.00$

(D)  $57.00$

**HINT**

$y_{i+1} = y_i + f(x_i, y_i)h$ . Note that the initial condition is given at  $x = 1$ .

**CONTRIBUTOR**

Autar Kaw