Surface Area and volume of A Right Circular cylinder Ex 19.2 Q30

Answer :

Given data is as follows:

Height of the tube well = 280 m

Diameter = 3 m

Rate of sinking the tube well = Rs.3.60/ m^3

Rate of cementing = Rs.2.50/ m^2

Given is the diameter of the tube well which is 3 meters. Therefore,

$r = \frac{3}{2}$ m

Volume of the tube well = $\pi r^2 h$

$= \frac{22}{7} \times \frac{3}{2} \times \frac{3}{2} \times 280$

$= 1980$ m^2

Cost of sinking the tube well = Volume of the tube well × Rate for sinking the tube well

$= 1980 \times 3.60$

= Rs. 7128

Curved surface area = $2\pi rh$

$= 2 \times \frac{22}{7} \times \frac{3}{2} \times 280$

$=2640$ m^2

Cost of cementing = Curved Surface Area × Rate of cementing

$= 2640 \times 2.50$

= Rs.6600

Therefore, the total cost of sinking the tube well is Rs.7128 and the total cost of cementing its inner surface is Rs.6600.

********** END **********