Exercise 13D

Question 1:

(i) Radius of sphere $= 3.5\,cm$

$\therefore$ Volume of the sphere $= \left(\frac{4}{3}\pi r^3\right)$

$= \left(\frac{4}{3} \times \frac{22}{7} \times 3.5 \times 3.5 \times 3.5\right) cm^3$

$= 179.67\,cm^3$

$\therefore$ Surface area of the sphere $= \left(4\pi r^2\right)$

$= \left(4 \times \frac{22}{7} \times 3.5 \times 3.5\right) cm^2$

$= 154\,cm^2$

(ii) Radius of the sphere $= 4.2cm$

$\therefore$ Volume of the sphere $= \left(\frac{4}{3}\pi r^3\right)$

$= \left(\frac{4}{3} \times \frac{22}{7} \times 4.2 \times 4.2 \times 4.2\right) cm^3$

$= 310.464\,cm^3$

$\therefore$ Surface area of the sphere $= \left(4\pi r^2\right)$

$= \left(4 \times \frac{22}{7} \times 4.2 \times 4.2\right) cm^2$

$= 221.76\,cm^2$

(iii) Radius of sphere $= 5\,m$

$\therefore$ Volume of the sphere $= \left(\frac{4}{3}\pi r^3\right)$

$= \left(\frac{4}{3} \times \frac{22}{7} \times 5 \times 5 \times 5\right) m^3$

$= 523.81\,m^3$

$\therefore$ Surface area of the sphere $= \left(4\pi r^2\right)$

$= \left(4 \times \frac{22}{7} \times 5 \times 5\right) m^2$

$= 314.28\,m^2$

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