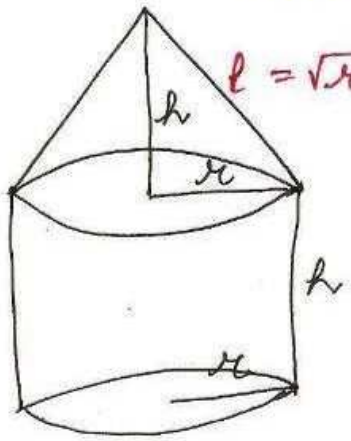
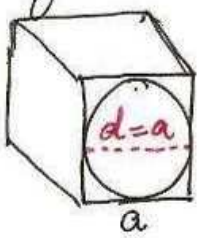
(3)



$l = \sqrt{r^2+h^2}$

t.S.A.
= CSA of cone + CSA of cyl.
$= \pi r l + 2\pi r h$
$= \pi r (l + 2h)$
$= \pi r (\sqrt{r^2+h^2} + 2h)$ Sq units
which is different from given answer
∴ given answer is false

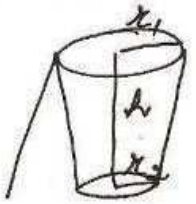
(4)



radius = $\frac{\text{diam.}}{2}$
$= \frac{a}{2}$ units

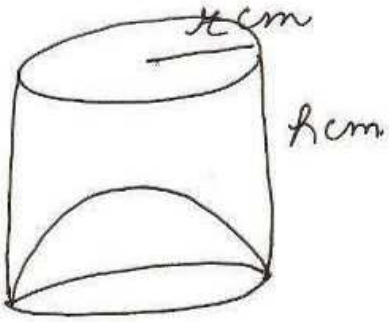
volume of ball $= \frac{4}{3}\pi r^3$
$= \frac{4}{3}\pi \left(\frac{a}{2}\right)^3$
$= \frac{4}{3}\pi \times \frac{a}{2} \times \frac{a}{2} \times \frac{a}{2}$
$= \frac{\pi}{6} a^3$ Sq. units
given volume $= \frac{4}{3}\pi a^3$
∴ false

(5)



volume of frustum
$= \frac{1}{3}\pi h (r_1^2 + r_2^2 + r_1 r_2)$
given vol. $= \frac{1}{3}\pi h (r_1^2 + r_2^2 - r_1 r_2)$
∴ false

(6)



capacity of vessel
$= \pi r^2 h - \frac{2}{3}\pi r^3$
$= \pi r^2 \left(h - \frac{2}{3} r\right)$
$= \frac{\pi r^2}{3} (3h - 2r)$
which is same as given answer
∴ True.

(7) In a frustum
$l = \sqrt{h^2 + (r_1 - r_2)^2}$ but given value is $\sqrt{h^2 + (r_1 + r_2)^2}$
∴ false.