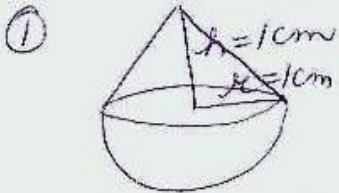


ex 13.2



①

volume of solid
 = vol. of con. part
 + vol of h.s. part

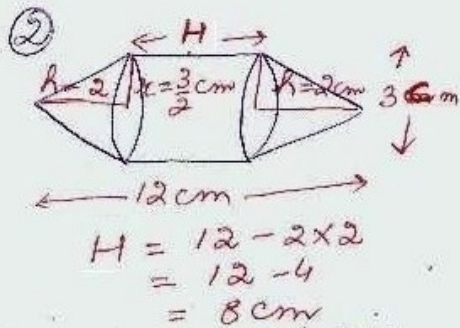
$$= \frac{1}{3} \pi r^2 h + \frac{2}{3} \pi r^3$$

$$= \frac{\pi r^2}{3} (h + 2r)$$

$$= \frac{\pi \times 1^2}{3} (1 + 2 \times 1)$$

$$= \frac{\pi}{3} \times 3$$

$$= \pi \text{ cm}^3$$



volume of air
 contained

= vol of cyl + vol 2 cones

$$= \pi r^2 H + 2 \times \frac{1}{3} \pi r^2 h$$

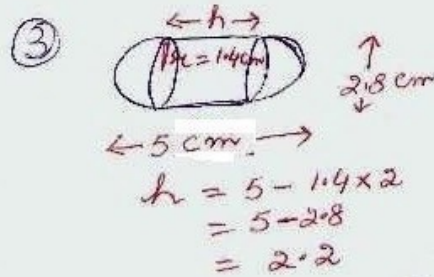
$$= \pi r^2 (H + \frac{2}{3} h)$$

$$= \frac{22}{7} \times \frac{3}{2} \times \frac{3}{2} (8 + \frac{2}{3} \times 2)$$

$$= \frac{11 \times 3 \times 3}{14} (\frac{24+4}{3})$$

$$= \frac{33}{14} \times 28$$

$$= 66 \text{ cm}^3$$



volume of 1 gulab jamun

= vol of cyl. part + vol of 2 conical end

$$= \pi r^2 h + 2 \times \frac{2}{3} \pi r^3$$

$$= \pi r^2 (h + \frac{4}{3} r)$$

$$= \frac{22}{7} \times 1.4 \times 1.4 (2.2 + \frac{4}{3} \times 1.4)$$

$$= 22 \times .28 \times (\frac{6.6 + 5.6}{3})$$

$$= 22 \times .28 \times \frac{12.2}{3}$$

$$= \frac{75.152}{3} \text{ cm}^3$$

vol of 45 gulab jamuns

$$= \frac{75.152}{3} \times 45$$

$$= 1127.28 \text{ cm}^3$$

vol. of syrup in 45 gulab jamuns

$$= \frac{36}{100} \times 1127.28$$

$$= 338.18 \text{ cm}^3$$

$$= 338 \text{ cm}^3 \text{ (approx.)}$$