



Assignment

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Date: __ / __ / __

Name: _____

Max Marks: 20

Section-A (One Marks Each)

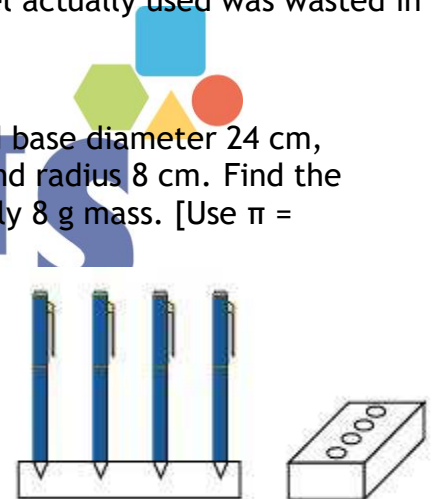
- 1 A hemispherical bowl has a diameter of 14 cm what would be the volume of water it would contain?
- 2 Find the volume of a sphere of radius 15.4 cm.

Section-B (Two Marks Each)

- 3 A vessel is in the form of a hollow hemisphere mounted by a hollow cylinder. The diameter of the hemisphere is 14 cm and the total height of the vessel is 13 cm. Find the inner surface area of the vessel.
- 4 Find:
 - i. The lateral or curved surface area of a closed cylindrical petrol storage tank that is 7 m in diameter and 5 m high.
 - ii. How much steel was actually used, if $\frac{1}{3}$ of the steel actually used was wasted in making the tank.

Section-C (Three Marks Each)

- 5 A solid iron pole consists of a cylinder of height 220 cm and base diameter 24 cm, which is surmounted by another cylinder of height 60 cm and radius 8 cm. Find the mass of the pole, given that 1 cm^3 of iron has approximately 8 g mass. [Use $\pi = 3.14$]
- 6 A pen stand made of wood is in the shape of a cuboid with four conical depressions to hold pens. The dimensions of the cuboids are 15 cm by 10 cm by 3.5 cm. The radius of each of the depressions is 0.5 cm and the depth is 1.4 cm. Find the volume of wood in the entire stand (see the following figure).



Section-D (Four Marks Each)

- 7 A gulab jamun, contains sugar syrup up to about 30% of its volume. Find approximately how much syrup would be found in 45 gulab jamuns, each shaped like a cylinder with two hemispherical ends with length 5 cm and diameter 2.8 cm.
- 8 A cubical block of side 7 cm is surmounted by a hemisphere. What is the greatest diameter the hemisphere can have? Find the surface area of the solid.