1. Three metallic solid cubes whose edges are $3cm, 4cm$ and $5cm$, are melted and formed into a single cube. Find the edge of the cube so formed. Also, find its surface area.

2. How many shots each having diameter $3cm$ can be made from a cuboidal lead solid of dimensions $9cm \times 11cm \times 12cm$?

3. A metallic sphere of radius $4.2cm$ is melted and recast into the shape of a cylinder of radius $6cm$. Find the height of the cylinder.

4. There are two spheres of same metal weighing $1kg$ and $7kg$. The radius of the smaller sphere is $3cm$. The two spheres are melted to form a single big sphere. Find the diameter of the new sphere.

5. A hemispherical bowl of internal diameter $36cm$ contains a liquid. This liquid is to be filled in cylindrical bottles of radius $3cm$ and height $6cm$. How many bottles are required to empty the bowl?

6. The rain water from a roof of $22m \times 20m$ drains into a cylindrical vessel having diameter of base $2m$ and height $3.5m$. If the vessel is just full, find the rain fall in cm.

7. A well with $10m$ inside diameter is dug $14m$ deep. Earth taken out of it is spread all a round to a width of $5m$ to form an embankment. Find the height of embankment.

8. Water in a canal, $30dm$ wide and $12dm$ deep is flowing with velocity of $10km/hr$. How much area will it irrigate in 30 minutes, if $8cm$ of standing water is required for irrigation?

9. If the diameter of cross-section of a wire is decreased by 5 % how much percent will the length be increased so that the volume remains the same?

C-9, Greater Kailash Enclave 2, New Delhi; Phone 9810815644, 9910393669
Email: info.educonclave@gmail.com; sangeettuli@gmail.com

1

10. A solid wooden toy is in the shape of a right circular cone mounted on a hemisphere. If the radius of the hemisphere is $4.2\,cm$ and the total height of the toy is $10.2\,cm$, find the volume of the wooden toy.

11. From a solid circular cylinder with height $10\,cm$ and radius of the base $6\,cm$, a right circular cone of the same height and same base is removed. Find the volume of the remaining solid. Also, find the whole surface area.

12. Marbles of diameter $1.4\,cm$ are dropped into a cylindrical beaker of diameter $7\,cm$ contain some water. Find the number of marbles that should be dropped into the beaker so the water level rises by $5.6\,cm$.

C-9, Greater Kailash Enclave 2, New Delhi; Phone 9810815644, 9910393669
Email: info.educonclave@gmail.com; sangeettuli@gmail.com

2