

9. A solid sphere of radius  $x$  cm is melted and cast into a shape of a solid cone of same radius. The height of the cone is  
 (1)  $3x$  cm                      (2)  $x$  cm                      (3)  $4x$  cm                      (4)  $2x$  cm
10. A frustum of a right circular cone is of height 16cm with radii of its ends as 8 cm and 20cm. Then, the volume of the frustum is  
 (1)  $3328\pi$  cm<sup>3</sup>                      (2)  $3228\pi$  cm<sup>3</sup>                      (3)  $3240\pi$  cm<sup>3</sup>                      (4)  $3340\pi$  cm<sup>3</sup>
11. A shuttle cock used for playing badminton has the shape of the combination of  
 (1) a cylinder and a sphere                      (2) a hemisphere and a cone  
 (3) a sphere and a cone                      (4) frustum of a cone and a hemisphere
12. A spherical ball of radius  $r_1$  units is melted to make 8 new identical balls each of radius  $r_2$  units. Then  $r_1 : r_2$  is  
 (1) 2:1                      (2) 1:2                      (3) 4:1                      (4) 1:4
13. The volume (in cm<sup>3</sup>) of the greatest sphere that can be cut off from a cylindrical log of wood of base radius 1 cm and height 5 cm is  
 (1)  $\frac{4}{3}\pi$                       (2)  $\frac{10}{3}\pi$                       (3)  $5\pi$                       (4)  $\frac{20}{3}\pi$
14. The height and radius of the cone of which the frustum is a part are  $h_1$  units and  $r_1$  units respectively. Height of the frustum is  $h_2$  units and radius of the smaller base is  $r_2$  units. If  $h_2 : h_1 = 1 : 2$  then  $r_2 : r_1$  is  
 (1) 1 : 3                      (2) 1 : 2                      (3) 2 : 1                      (4) 3 : 1
15. The ratio of the volumes of a cylinder, a cone and a sphere, if each has the same diameter and same height is  
 (1) 1:2:3                      (2) 2:1:3                      (3) 1:3:2                      (4) 3:1:2