Chapter 13: Solid Geometry

Answer to the questions No. 1 and 2 according to the following information : [All B.18]

In figure, OA = 4 cm, OC = 3 cm and the cone exactly fits into the cylinder.

1. What is the slant height of the cone?
ⓐ 5 cm ⓑ 7 cm
ⓒ 12 cm ⓓ 25 cm **a**

2. What is the difference of the volume between cylinder and cone?
ⓐ 75.40 cubic centimetres
ⓑ 100.53 cubic centimetres
ⓒ 134.04 cubic centimetres
ⓓ 301.59 cubic centimetres **a**

3. The radius of a sphere is 2r unit. Which one is the volume of the sphere in cubic unit? [R.B.17]
ⓐ $\frac{2}{3}\pi r^3$ ⓑ $\frac{4}{3}\pi r^3$
ⓒ $4\pi r^3$ ⓓ $\frac{32}{3}\pi r^3$ **c**

4. What is the volume of a pyramid in cubic units? [Ctg.B.17]
ⓐ $\frac{1}{3}\times$ area of the base $\times$ height
ⓑ $\frac{1}{2}\times$ area of the base $\times$ height
ⓒ area of the base $\times$ height
ⓓ $\frac{3}{4}\times$ area of the base $\times$ height **a**

5. The height of right circular cone is 12cm and the diameter of its base is 10cm. What is the value of slant height? [S.B.17]
ⓐ 2cm ⓑ 7cm
ⓒ 13cm ⓓ 17cm **c**

6. What is the area of the surface of sphere? [J.B.17]
ⓐ $2\pi r^2$ ⓑ $\frac{4}{3}\pi r^3$ ⓒ $\frac{3}{4}\pi r^3$ ⓓ $4\pi r^2$ **d**

7. A solid sphere of radius 9cm is formed by melting three solid spheres of radii 6cm, 8cm and r cm. What is the value of r? [J.B.17]
ⓐ 6 cm ⓑ 5 cm ⓒ 3 cm ⓓ 1 cm **d**

8. If the length of diagonal of a square is $8\sqrt{2}$ cm; what is the area of the square? [Ctg.B.16]
ⓐ 8 sq. cm ⓑ $8\sqrt{2}$ sq. cm
ⓒ 64 sq. cm ⓓ 128 sq. cm **c**

9. The length, breadth and height of a rectangular parallelopiped are respectively 5 cm, 4 cm and 3 cm, then the area of surfaces is — [B.B.16]
ⓐ 30 cm^2 ⓑ 47 cm^2 ⓒ 60 cm^2 ⓓ 94 cm^2 **d**

10. A rectangular parallolepiped has its length 4 cm, breadth 3 cm and height 2 cm, then find the diagonal. [R.B.16]
ⓐ $\sqrt{29}$cm ⓑ $\sqrt{21}$cm ⓒ $\sqrt{20}$cm ⓓ 29cm **a**

11. How many dimension of a sphere? [Dj.B.16]
ⓐ 2 ⓑ 3 ⓒ 4 ⓓ 1 **b**

12. A spherical ball of diameter 4 cm, then which one is its volume? [R.B.16]
ⓐ 4π cm^3 ⓑ $\frac{4}{3}\pi$ cm^3 ⓒ $\frac{2}{3}\pi$ cm^3 ⓓ $\frac{32}{3}\pi$ cm^3 **d**

13. Diameter of a ball is 3 cm, then what is the volume? [B.B.16]
ⓐ 3π cm^3 ⓑ $\frac{9}{2}\pi$ cm^3 ⓒ 9π cm^3 ⓓ 36π cm^3 **b**

14. Length of other two sides except the hypotenuse of a right-angled triangle are 8cm and 6cm. If the triangle is revolved about the larger side, the evolved solid will be a— [B.B.17]
i. right circular cone
ii. right circular cylinder
iii. the area of the base of the evolved solid is 36π square cm.
Which one is correct?
ⓐ i ⓑ ii
ⓒ i and iii ⓓ ii and iii **c**

The length and diameter of a capsule are 3cm and 2cm respectively.

Answer the questions nos. 15 and 16 according to the above information :— [D.B.17]

15. What is the area of whole surface of the capsule? [D.B.17]
ⓐ 6π ⓑ 4π ⓒ 2π ⓓ π **a**

16. What is the volume of the capsule? [D.B.17]
ⓐ $\frac{4\pi}{3}$ ⓑ $\frac{7\pi}{3}$ ⓒ 4π ⓓ 6π **b**

Answer to the questions no. 17 and 18 according to the given information :— [Dj.B.17]
A metallic solid sphere of diameter 6cm is melted and a right circular cylinder the radius of whose base is 3cm is made.

17. What is the height of the cylinder made? [Dj.B.17]
ⓐ 4cm ⓑ 6 cm ⓒ 8 cm ⓓ 12 cm **a**

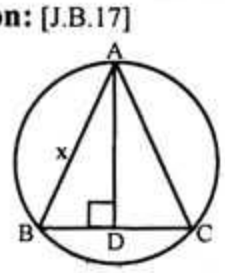
18. What is the area of the curved surface of the cylinder in square centimeters? [Dj.B.17]
ⓐ 12π ⓑ 24π ⓒ 36π ⓓ 42π **b**

Answer the question number 19 and 20 according to the following information :— [C.B.17]
The length of an edge of a regular tetrahedron is 2 cm and height is $\frac{2}{\sqrt{3}}$ cm.

19. What is the slant height of the tetrahedron? [C.B.17]
ⓐ 5 cm ⓑ 3cm ⓒ $\sqrt{3}$ cm ⓓ $\frac{\sqrt{3}}{2}$ cm **c**

20. What is the volume of the tetrahedron? [C.B.17]
ⓐ $\frac{1}{2}$ cubic cm ⓑ $\frac{2}{3}$ cubic cm
ⓒ 1 cubic cm ⓓ 2 cubic cm **b**

Answer to the question no. 21 and 22 according to the following information: [J.B.17]



In the figure, ABC is an equilateral triangle.

21. Which one of the following is AD? [J.B.17]
ⓐ $\frac{\sqrt{3}}{2}x$ ⓑ $\frac{3}{4}x^2$ ⓒ $\sqrt{3}x^2$ ⓓ x^2 **a**

22. If x = 2 then what is the value of the area ΔABC? [J.B.17]
ⓐ $\sqrt{3}$ ⓑ 3 ⓒ $3\sqrt{3}$ ⓓ $\frac{\sqrt{3}}{2}$ **a**