RBI Assistant Mains Quant Daily Mock

Q1. Length of rectangle is equal to the radius of a circle whose circumference is 176 cm and breadth of rectangle is equal to the side of square whose area is 196 cm^2, then find the length of a diagonal of that rectangle?

(a) $2\sqrt{130}$ cm

(b) $14\sqrt{5}$ cm

(c) $14\sqrt{3}$ cm

(d) $14\sqrt{6}$ cm

(e) $14\sqrt{2}$ cm

Q2. There is a solid cone of radius R. A circular hole of radius r is drilled from the centre of its circular base to its top, along its axis. Find the fraction of the volume of the cone left, if R : r = 7 : 4.

(a) $\frac{208}{343}$

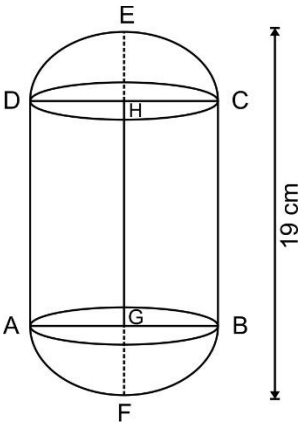
(b) $\frac{135}{343}$

(c) $\frac{235}{343}$

(d) $\frac{108}{343}$

(e) None of these

Q3. A solid is in the form of a cylinder with hemispherical ends. The total height of the solid is 19 cm and the diameter of the cylinder is 7 cm. Find the total surface area of the solid. (use $\pi = 22/7$)



(a) 398.75 cm^2

(b) 418 cm^2

(c) 444 cm^2

(d) 412 cm^2

(e) 432 cm^2

Q4. The internal and external diameters of a hollow hemispherical vessel are 24 cm and 25 cm respectively. The cost of painting 1 cm^2 of the surface is Rs. 0.05. Find the approximate total cost of painting the vessel all over.

(a) Rs. 100
(b) Rs. 86
(c) Rs. 184
(d) Rs. 96
(e) Rs. 108

Q5. The ratio between radius of two hemispheres solid tin pieces is 2 : 3 and difference between volume of both is 836/21 cm^3. These two hemispheres are melted to form a cylindrical vessel and used $\frac{74}{3}\pi$ cm^3 extra tin material for polishing the vessel. If ratio between height & radius of cylindrical vessel is 3 : 4, then find the total surface area of cylindrical vessel?

(a) 154 cm^2
(b) 132 cm^2
(c) 176 cm^2
(d) 208 cm^2
(e) 198 cm^2

Q6. if Cone, Cylinder and Hemisphere have equal radius and height. Find the ratio of total surface area of cylinder, cone and hemisphere.

(a) $4 : \sqrt{2} : \sqrt{6}$
(b) $4 : \sqrt{2} : 3$
(c) $\sqrt{2} + 1 : 4 : 3$
(d) $3 : 4 : \sqrt{2} + 1$
(e) $4 : \sqrt{2} + 1 : 3$

Q7. If the curved surface area of a cone is thrice that of another cone and slant height of the second cone is thrice that of the first, find the ratio of the area of their base.(first cone to second cone)

(a) 81 : 1
(b) 9 : 1
(c) 3 : 1
(d) 27 : 1
(e) 11 : 1

Q8. A circus tent is cylindrical up to a height of 3 m and conical above it. If its diameter is 105m and the slant height of the conical part is 63 m, then the total area of the canvas required to make the tent is (take $\pi = \frac{2}{7}$)

(a) 11385 m^2
(b) 10395 m^2
(c) 9900 m^2
(d) 990 m^2
(e) 10435 m^2

Q9. If the breadth of rectangle is increased by 2cm then it will become side of a square. Area of square is 24cm^2 more than the area of rectangle and the ratio of length and breadth of rectangle is 6 : 5. Then, find the ratio of area of rectangle to the area of square.

(a) 3 : 4
(b) 5 : 6
(c) 12 : 13
(d) 6 : 7
(e) None of the above.

Q10. If the volume and curved surface area of a cylinder 616 m^3 and 352m^2 respectively, what is the total surface area of the cylinder (in m^2)?

(a) 429
(b) 419
(c) 435
(d) 421
(e) 417

Q11. A right circular cone is exactly fitted inside a cube in such a way that the edges of the base of the cone are touching the edges of one of the faces of the cube and the vertex is on the opposite face of the cube. If the volume of the cube is 125 cc, what is the approximate volume of the cone?

(a) 30 cc
(b) 27 cc
(c) 33 cc
(d) 44 cc
(e) 49 cc

Q12. The base radius and height of a cylinder is 7 cm and 25 cm respectively. Two conical cavities of radius 5 cm and height 12 cm are drilled out from both ends of cylinder. Find the total surface area of remaining solid. (in cm^2)

(a) 498 π
(b) 408 π
(c) 518 π
(d) 430 π
(e) 528 π

Q13. In a cylindrical vessel of diameter 24 cm filled up with sufficient quantity of water, a solid spherical ball of radius 6 cm is completely immersed. Find the increase in height of water level.

(a) 0.75 m
(b) 1 cm
(c) 1.25 cm
(d) 1.5 cm
(e) 2 cm

Q14. A playground is in the shape of a rectangle. A sum of Rs. 1000 was spent to make the ground usable at the rate of 25 paise per m^2. The breadth of the ground is 50 m. If the length of the ground is increased by 20 m, what will be the total expenditure, (in Rs.) at the same rate per m^2 ?

(a) 1250
(b) 1000
(c) 1500
(d) 2250
(e) None of the above

Q15. A circle is inscribed in a square. If the difference between area of the square and circle is 262.5 cm^2, then find the area of the rectangle whose perimeter is same as that of circle while length of rectangle is 20% more than the breadth of rectangle (in cm^2)

(a) 1500
(b) 1400
(c) 700
(d) 750
(e) 3000

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