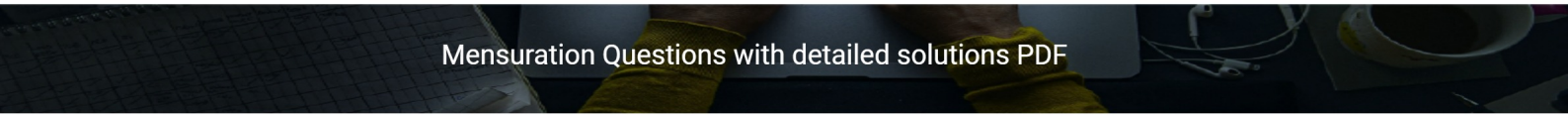

Mensuration questions are a common type of questions regularly asked in competitive exams. These questions carry a weightage of 1-2 questions(2-4 marks) in SSC exams and 1-2 questions(1-2 marks) bank exams. To perform well in competitive exams, your mensuration concepts should be clear.

Here are some tips for solving Mensuration questions: Familiarize yourself with formulas for various 2D and 3D shapes, Visualize shapes to better understand relationships between dimensions and Work on a range of problems involving different shapes to enhance skills.

So, we have attached 10 questions of Mensuration for you to practice with. You should aim to solve these questions in less than half a minute for each.

Practice Questions on Mensuration

You can also download the Mensuration questions and answers pdf. Just click on the **Download PDF** button. So let's start with the very first question.

Q:1 The volume of the cone is 1732.5 cm^3 and its height is 15 cm. What will be the volume of the right angular cylinder if the height and the radius of the cylinder is equal to the height & radius of the cone?

1. 2197.5 cm^3

2. 3870.25 cm^3

3. 5197.5 cm^3

4. 1764.5 cm^3

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) This was an easy one. Did get it right?

Q:2 The circumference of the base of a right angled cylinder is 22 cm and its height is 9.6 cm. Find the curved surface area of the cylinder.

1. 224.6 cm^2

2. 211.2 cm^2

3. 369.6 cm^2

4. 434 cm^2

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) This was a simple one, don't get stuck in unnecessary calculations!

Q:3 How many small cubes of edge length 2.2 cm can be made by melting a cone of radius 7.7 cm and height 12 cm?

1. 35

2. 42

3. 63

4. 70

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) A question of seconds.....

Q:4 What is the total surface area of the cone whose height and radius are 8.4 cm and 3.5 cm respectively?

1. 132.8 cm^2

2. 134.4 cm^2

3. 136.2 cm^2

4. 138.6 cm^2

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) It is not an easy one but I think now you're prepared for it.

Q:5 Find the volume of a cuboid, if the area of the adjacent face is 21 cm^2, 28 cm^2 & 12 cm^2.

1. 81 cm^3

2. 84 cm^3

3. 147 cm^3

4. 144 cm^3

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) We're halfway through. Have you got all your questions correct so far?

Q:6 A 5m wide path runs outside and around a rectangular park of length 27m and breadth 20m. Find the area of the path.

1. 260 m^2

2. 300 m^2

3. 570 m^2

4. 240 m^2

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) Should we raise the level of questions?

Q:7 Two semicircles are being cut from a rectangular sheet of length 32 cm and breadth 14 cm. The diameter of the semi-circular sheet is equal to the breadth of the rectangle. Find the area of the remaining sheet.

1. 448 cm^2

2. 294 cm^2

3. 354 cm^2

4. 334 cm^2

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) Try using short tricks to save time..

Q:8 A flask has a spherical bottom of radius 21 cm and a cylindrical top (radius 2 cm and height 3.5 cm). The water filling the flask has to be completely transferred to glasses of volume 44 cm^3. What is the total number of glasses required?

1. 880

2. 881

3. 882

4. 883

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) This was a bit calculative one...

Q:9 The two crossroads each of width 2 m cut at right angles through the centre of a rectangular park of length 12 m & breadth 8 m parallel to its sides. Find the area of the park other than the roads.

1. 56 m^2

2. 40 m^2

3. 60 m^2

4. 92 m^2

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) Try decreasing time in your calculations

Q:10 A cow is tied to a peg at one corner of a square shaped grass field of side 30 m. The length of the rope is 21 m long. The area (in m^2) of that part of the field in which the cow can graze is: (use $\pi = 22/7$)

1. 357.8

2. 365.9

3. 346.5

4. 379.7

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) Did you guess them all correctly?

Answer Key

Let's check out your score in this test.

1. (3)	**2.** (2)	**3.** (4)	**4.** (4)	**5.** (2)
6. (3)	**7.** (2)	**8.** (4)	**9.** (3)	**10.** (3)

Comment below your score, considering each question has 1 mark only. If you scored 8 to 10, congratulations! You are one step closer to selection. If you have scored 5 to 8 marks, then you are doing well, keep it up. If you have scored less than 5 marks then you need to work a little harder on this subject. But don't worry, we are here to help you master the subject.

Let's check the answers and solutions and try to find out what went wrong.

Answers and Solutions

Q:1 The correct answer is **option 3** i.e. **5197.5 cm^3**

The volume of cone = $\pi r^2 h$

The volume of the cylinder = $(1/3)\pi r^2 h$

where r is the radius and h is the height.

A/Q, The volume of the cone = 1732.5

$1732.5 = (1/3) \times (22/7) \times r^2 \times 15$

$r^2 = (1732.5 \times 7)/(22 \times 5) = (346.5 \times 7)/22 = 110.25$

$r = 10.5$

Now, the volume of the cylinder = $(22/7) \times 10.5 \times 10.5 \times 15 = 5197.5\ cm^3$

Short Trick:

The volume of the cylinder is 3 times the volume of the cone if the radius and height of both of them are equal.

Q:2 The correct answer is **option 2** i.e. **211.2 cm^2.**

The shape of the base of the right angled cylinder is circular

Circumference of the base of cylinder = $2\pi r$

Area of a curved surface of the cylinder = $2\pi rh$

Circumference of base = 22

⇒ 22 = 2 × π × r

⇒ 22 = 2 × 22/7 × r

⇒ r = 7/2

The curved surface area of a cylinder = (2πr) × h ⇒ (2 × 22/7 × 7/2 × 9.6) = 211.2 cm^2

Q:3 The correct answer is **option 4** i.e. **70**

Let the number of cubes be n

Volume of cone = n × Volume of cube

$1/3 \times \pi r^2 h = n \times a^3$

$1/3 \times 22/7 \times 7.7^2 \times 12 = n \times 2.2^3$

$22 \times 1.1 \times 7.7 \times 4 = n \times 2.2^3$

$n = (22 \times 1.1 \times 7.7 \times 4)/2.2^3$

⇒ 70

Q:4 The correct answer is **Option 4** i.e. **138.6 cm^2**.

h = 8.4 cm and r = 3.5 cm

$l = \sqrt{(h^2 + r^2)}$

$\Rightarrow \sqrt{(8.4^2 + 3.5^2)} = 9.1$ cm

TSA of cone = πr(l + r)

⇒ 22/7 × 3.5 × (9.1 + 3.5)

⇒ 138.6 cm^2

Q:5 The correct answer is **option 2** i.e. **84 cm^2**.

If the length (l), breadth (b) and height (h) are the sides of the cuboid.

Its area of three adjacent faces are lb, bh and hl

The volume of cuboid = lbh

(volume of the cuboid)^2 = The product of the area of three adjacent faces of cuboid.

The area of three adjacent faces is 21 cm^2, 28 cm^2 and 12 cm^2.

(volume of cuboid)^2 = 21 × 28 × 12 = 7056

Hence, The volume of the cuboid = 84 cm^3

Q:6 The correct answer is **option 3** i.e. **570 m^2**

Area of rectangle = length × breadth

Length of park = 27 m

Breadth of the park = 20 m

Width of the path = 5 m

Total length i.e length of park + 2 × width of path = 27 + 2 × 5 = 37 m

The total breadth i.e breadth of park + 2 × width of the path = 20 + 2 × 5 = 30 m

The total area (park + path) = 37 × 30 = 1110 m^2

The area of rectangular park = 27 × 20 = 540 m^2

The area of path = 1110 - 540 = 570 m^2

Q:7 The correct answer is **Option 2** i.e. **294 cm^2.**

Area of rectangular sheet = length × breadth = 32 × 14 = 448 cm^2.

Diameter of semicircle = 14 cm

Radius of semicircle = 7 cm

Area of semicircle = (π/2) × r × r

Area = (22/7) × (1/2) × 7 × 7 = 77 cm^2

Area of two semicircles = 77 × 2 = 154 cm^2

Remaining area = Area of rectangle - Area of semicircles

Remaining area = 448 - 154 = 294 cm^2

Q:8 The correct answer is **Option 4** i.e. **883.**

The volume of the flask = n × Volume of glass

$\Rightarrow 4/3\pi R^3 + \pi r^2 h = n \times 44$

$\Rightarrow 4/3 \times 22/7 \times 21^3 + 22/7 \times 2^2 \times 3.5 = 44n$

$\Rightarrow 38852 = 44n$

$\Rightarrow n = 883$

Q:9 The correct answer is **Option 3** i.e. **60 m^2**.

Area of rectangle = length × breadth

The length of the park = 12 m

The breadth of the park = 8 m

The width of the road = 2 m

The area of park = 12 × 8 = 96 m^2

The area of the road = (12 × 2) + (8 × 2) - (2 × 2) = 36 m^2

Here, 2 × 2 is subtracted because while adding the area of the road, PQRS is added twice.

Now, the area of the park other than road = (96 - 36) = 60 m^2

Q:10 The correct answer is **Option 3** i.e. **346.5.**

Side of square field = 30m

Length of rope = 21m

Area of sector = $(x/360) \times \pi r^2$

Let ABCD be a square field

The area cow can graze will be the sector of the square field.

The length of rope = radius of the sector = 21 m

In a square all angles are right angle

The area of a sector in which cow can graze = $(x/360) \times \pi r^2 = (90/360) \times \pi(21)^2 = (441 \times 22)/(4 \times 7) = 9702/28 = 346.5\ m^2$

So, this is it for today. We will meet again with another new topic. Till then, you can practice the questions again by downloading the PDF of Mensuration.