

Followings are of 2 Marks each (Q01-05).

- Q01. Write the distance of the point $P(5, -2, 3)$ from origin $O(0, 0, 0)$.
- Q02. Find the perpendicular distance of the point $A(6, 7, 8)$ from xy -plane, use distance formula.
- Q03. Using distance formula, find the distance of a point $P(-3, -2, 1)$ from z -axis.
- Q04. What are the coordinates of the vertices of a cube whose edge length is of 3 units, one of whose vertices coincides with the origin and the three edges passing through the origin, coincides with the positive direction of the axes through the origin?
- Q05. Find the distance between the points $A(0, -1, -7)$ and $B(2, 1, -9)$. [2 × 5 = 10]

Followings are of 3 Marks each (Q06-07).

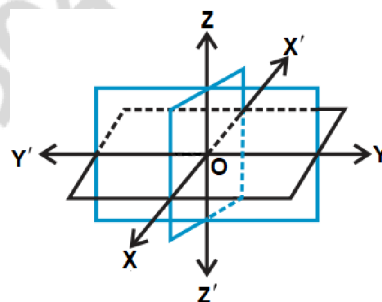
- Q06. If A and B be the points $(3, 4, 5)$ and $(-1, 3, -7)$, respectively, find the equation of the set of points P such that $PA^2 + PB^2 = k^2$, where k is constant.
- Q07. Find the image of $(-5, 4, -3)$ in the xy -plane, yz -plane and zx -plane. [3 × 2 = 6]

Following is of 4 Marks (Q08).

- Q08. **PASSAGE BASED QUESTION :** Consider three planes intersecting at a point O such that these three planes are mutually perpendicular to each other (refer the figure).

These three planes intersect along the lines $X'OX$, $Y'OY$ and $Z'OZ$, called as the x , y and z -axes respectively. These lines are mutually perpendicular to each other.

These lines constitute the rectangular coordinate system.



The planes XOY , YOZ and ZOX are respectively called the XY -plane, the YZ -plane and the ZX -plane and are known as the three coordinate planes. The point O is called the origin of the coordinate system. The three coordinate planes divide the space into eight parts known as the octants. The octants are named as $XOYZ$, $X'OYZ$, $X'OY'Z$, $XOY'Z$, $XOYZ'$, $X'OYZ'$, $X'OY'Z'$ and $XOY'Z'$ and denoted by I, II, III, IV, V, VI, VII and VIII respectively.

Based on the above information, answer the following questions.

- (a) Write the x and z coordinates of a point on y -axis.
- (b) In which plane does the point $(0, 7, 8)$ lie?
- (c) Name the octant in which the point $(3, 2, 5)$ lies.
- (d) If a point lies in XY -plane, then write its z -coordinate. [1 × 4 = 4]

Followings are of 5 Marks each (Q09-10).

- Q09. Show that the points $A(2, -3, 4)$, $B(-1, 2, 1)$ and $C\left(0, \frac{1}{3}, 2\right)$ are collinear.

Q10. Show that the points (1, 2, 3), (-1, -2, -1), (2, 3, 2) and (4, 7, 6) form the vertices of parallelogram, but not a rectangle.

OR

The vertices of a triangle ABC are A(3, 2, 0), B(5, 3, 2) and C(-9, 6, -3). The bisector AD of angle A meets BC at D. Find the ratio BD : DC .

[5 × 2 = 10]

We have released Set of **2 Books** for CBSE Class XI (Academic session 2024-25).

1. MATHMISSION FOR XI

- ☑ COMPLETE THEORY & EXAMPLES
- ☑ SUBJECTIVE TYPE QUESTIONS
- ☑ COMPETENCY FOCUSED QUESTIONS
 - ✦ Multiple Choice Questions
 - ✦ Assertion-Reason Questions
 - ✦ Case-Study Questions
 - ✦ Passage-Based Questions
- ☑ ANSWERS OF ALL QUESTIONS

2. SOLUTIONS OF MATHMISSION

- ☑ Step-by-step Detailed Solutions (For all Exercises of MATHMISSION)

★ You can Share this document with other students.

✍ With a lot of Blessings!

O.P. GUPTA

Author & Math Mentor
Indira Award Winner

📖 The O.P. Gupta Advanced Math Classes
@ **Think Academy**, Near Dhansa Bus Stand
Metro Station Gate No.3, Najafgarh, Delhi

📞 Telegram / WhatsApp : +919650350480

📺 YouTube.com/@theopgupta

Exclusive coaching for Maths (041)
By **O.P. GUPTA**

- ☑ CBSE XII
- ☑ CBSE XI
- ☑ CUET
- ☑ JEE - MAIN
- ☑ NDA

Grab the best Seller book for X, XI & XII Maths (041) CBSE Exams.

☑ MATHMISSION FOR XII, XI & X

(Refresher Guide with Competency Focused Questions)

✦ These books are developed as per CBSE curriculum for 2024-25.

☑ CBSE 21 SAMPLE PAPERS FOR XII

☑ CBSE YODDHA SAMPLE PAPERS FOR XI

☑ CBSE UMANG SAMPLE PAPERS FOR X

☑ NTA CUET (UG) QUESTION BANK IN MATHS

(Order now at Discounted rate on WhatsApp - 9650350480)

MATHEMATICIA BY O.P. GUPTA

...a name you can bank upon!



Feel Safe to **Share this Document** with other math scholars

CLICK NOW

TO

Download



or, just type -
theopgupta.com

**FREE PDF TESTS AND
ASSIGNMENTS OF THE
CLASSES XII, XI & X**



To get **FREE PDF Materials**, join
WhatsApp Teachers Group
by Clicking on the Logo

Click on the
Book cover
to buy!



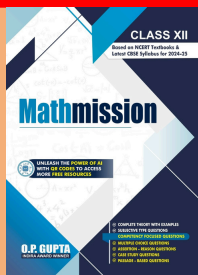
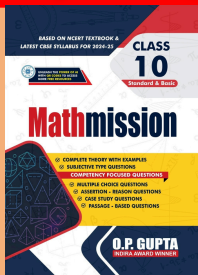
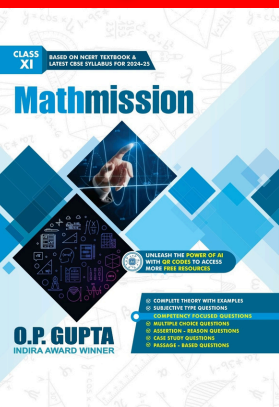
If you are a **Student**, then you may
join our **Students Group**

CLICK HERE FOR
**CLASSES
IX & X**

CLICK HERE FOR
**CLASSES
XI & XII**

You can add our WhatsApp no. **+919650350480** to your Groups also

Many Direct Questions from our Books have been asked in the recent CBSE Exams



**MATHMISSION
FOR XII, XI & X**
2024-25 Edition

Buy our
books on
amazon
Flipkart

/theopgupta /theopgupta /theopgupta /@theopgupta

For Bulk Orders of our Books at Discounted Price, contact on +91-9650350480