

MULTIPLE CHOICE TYPE QUESTIONS

For 2027 Exams - Mathematics (041) - Class 11

By **O.P. GUPTA**

Indira Award Winner

M.+919650350480

Chapter 01

Sets Theory

- $\{x : x \text{ is a two digit number so that the sum of its digits is one}\}$ in the tabular form, is given by
(a) $\{10\}$, $\{01\}$ both (b) $\{100\}$ (c) $\{10\}$ (d) $\{01\}$
- If $A = \{0\}$, then A is
(a) null set (b) infinite set (c) singleton set (d) disjoint set
- For $X = \{2, 4, 6\}$ and $Y = \{1, 3, 6, 10, 15\}$, $X - Y =$
(a) $\{2, 4\}$ (b) $\{2, 4, 6\}$ (c) $\{1, 3, 10, 15\}$ (d) ϕ
- If U is a universal set and A is a non-empty set then, which of the following is not true?
(a) $A \cup U = A$ (b) $A \cup U = U$ (c) $A \cap U = A$ (d) $A \cap A' = \phi$
- If U is a universal set and A is a non-empty set then, which of the following is true?
(a) $A \cup U = A$ (b) $A \cup A' = A$ (c) $A \cap A' = \phi$ (d) $A \cap U' = A$

Chapter 02

Relations & Functions

- Domain of $f(x) = \frac{1}{\sqrt{x^2 - 5x - 6}}$ is
(a) \mathbb{R} (Real nos.) (b) $\mathbb{R} - [-1, 6]$ (c) $\mathbb{R} - \{-1\}$ (d) $\mathbb{R} - \{-1, 6\}$
- If $|x| \geq 3$, then $x \in$
(a) $(-3, 3)$ (b) $[-3, 3]$ (c) $(-\infty, -3) \cup (3, \infty)$ (d) $(-\infty, -3] \cup [3, \infty)$
- If $A = \{1, 2, 3, 4\}$ and $B = \{5, 6, 7\}$, then no. of functions defined from A to B is
(a) 64 (b) 81 (c) 4096 (d) 144
- For the function $f(x) = [x]$, where $[.]$ is greatest integer function, the range of $f(x)$ is
(a) \mathbb{Z}^+ (b) \mathbb{Z}^- (c) $[0, \infty)$ (d) \mathbb{Z}
- If $A = \{1, 2, 3\}$, $B = \{4, 5\}$ then, a relation R defined from A to B , having maximum no. of elements is given by
(a) $B \times B$ (b) $A \times A$ (c) $A \times B$ (d) $B \times A$

Chapter 03

Trigonometric Functions

- The greatest value of $\sin x \cos x$ is
(a) 1 (b) 2 (c) $\sqrt{2}$ (d) $\frac{1}{2}$
- The value of $\tan 0^\circ \times \tan 1^\circ \times \tan 2^\circ \times \tan 3^\circ \times \dots \times \tan 89^\circ$ is
(a) 0 (b) 1 (c) $\frac{1}{2}$ (d) Not defined
- The value of $\cos 1^\circ \times \cos 2^\circ \times \cos 3^\circ \times \dots \times \cos 179^\circ$ is

- (a) $\frac{1}{\sqrt{2}}$ (b) 1 (c) 0 (d) -1
04. The value of $\frac{1 - \tan^2 15^\circ}{1 + \tan^2 15^\circ}$ is
 (a) 1 (b) $\sqrt{3}$ (c) $\frac{\sqrt{3}}{2}$ (d) 2
05. The value of $\sin 50^\circ - \sin 70^\circ + \sin 10^\circ$ is equal to
 (a) 1 (b) 0 (c) $\frac{1}{2}$ (d) 2
06. If $\sin \theta + \cos \theta = 1$, then the value of $\sin 2\theta$ is equal to
 (a) 1 (b) 1 (c) 0 (d) 2

Chapter 04

Complex Numbers

01. $(\sqrt{-2})(\sqrt{3})$ is equal to
 (a) $\sqrt{6}$ (b) $-\sqrt{6}$ (c) $i\sqrt{6}$ (d) $i2\sqrt{3}$
02. If $\frac{(a^2+1)^2}{2a-i} = x + iy$, then $x^2 + y^2 =$
 (a) $\frac{(a^2+1)^4}{4a^2+1}$ (b) $\frac{(a+1)^2}{4a^2+1}$ (c) $\frac{(a^2+1)^2}{(4a^2-1)^2}$ (d) None of these
03. If $z = \frac{1}{1 - \cos \theta - i \sin \theta}$, then $\text{Re}(z) =$
 (a) 0 (b) $\frac{1}{2}$ (c) $\cot \frac{\theta}{2}$ (d) $\frac{1}{2} \cot \frac{\theta}{2}$
04. If $f(z) = \frac{7-z}{1-z^2}$, where $z = 1 + 2i$, then $|f(z)|$ is
 (a) $\frac{|z|}{2}$ (b) $|z|$ (c) $2|z|$ (d) None of these

Chapter 05

Linear Inequations

01. For the inequation $\frac{3(x-2)}{5} \geq \frac{5(2-x)}{3}$, $x \in$
 (a) $(\infty, 2]$ (b) $[2, \infty)$ (c) $(-\infty, 2]$ (d) $(\infty, 2)$
02. Consider $4x + 3 < 5x + 7$. Then $x \in$
 (a) $(4, \infty)$ (b) $(-4, \infty)$ (c) $(2, \infty)$ (d) $(-2, \infty)$
03. For $3x - 2 < \frac{x}{3}$, we always have $x \in$
 (a) $\left(\frac{3}{4}, \infty\right)$ (b) $\left(-\frac{3}{4}, \infty\right)$ (c) $\left(-\infty, \frac{3}{4}\right)$ (d) $\left(-\infty, \frac{3}{4}\right]$
04. Fill in the blanks: If $a < b$ and $c < 0$, then $\left(\frac{a}{c}\right)$ _____ $\left(\frac{b}{c}\right)$.
 (a) $<$ (b) \leq (c) $>$ (d) \geq

☑ Chapter 06

Permutations & Combinations

- What is the number of ways of arrangement of letters of word BANANA so that no two N's are together?
(a) 40 (b) 60 (c) 80 (d) 100
- What is the value of n , if ${}^{15}P_{n-1} : {}^{16}P_{n-2} = 3 : 4$?
(a) 10 (b) 12 (c) 14 (d) 15
- If 7 points out of 12 are in the same straight line, then what is the number of triangles formed?
(a) 84 (b) 175 (c) 185 (d) 201
- In how many ways can a bowler take four wickets in a single 6 balls over?
(a) 6 (b) 15 (c) 20 (d) 30

☑ Chapter 07

Binomial Theorem

- The middle term in the expansion of $\left[2x - \frac{1}{3x}\right]^{10}$; $x \neq 0$ is
(a) ${}^{10}C_4 \frac{2^4}{3^4}$ (b) $-{}^{10}C_5 \frac{2^5}{3^5}$ (c) $-{}^{10}C_4 \frac{2^4}{3^5}$ (d) ${}^{10}C_5 \frac{2^5}{3^5}$
- For all $n \in \mathbb{N}$, $2^{4n} - 15n - 1$ is divisible by
(a) 125 (b) 225 (c) 450 (d) 625
- What is the coefficient of x^n in the expansion of $(x^2 + 2x)^{n-1}$?
(a) $(n-1) \times 2^{(n-2)}$ (b) $(n-1) \times 2^{(n-1)}$ (c) $(n-1) \times 2^n$ (d) $n \times 2^{(n-1)}$
- The coefficient of x^{-3} in the expansion of $\left[x - \frac{m}{x}\right]^{11}$; $x \neq 0$ is
(a) $-924m^7$ (b) $-792m^5$ (c) $-792m^6$ (d) $-330m^7$

☑ Chapter 08

Sequences & Series

- Let A and G be the arithmetic mean and geometric mean of two positive nos., then which of the following is true?
(a) $G \geq A$ (b) $A = \sqrt{G}$ (c) $A \geq G$ (d) $G = \sqrt{A}$
- The third term of G.P. is 4. The product of its first 5 terms is
(a) 4^3 (b) 2^8 (c) 2^{10} (d) $\frac{1}{4^5}$
- If $x, 2y, 3z$ are in A.P., where the distinct numbers x, y, z are in G.P., then the common ratio of the G.P. is
(a) 3 (b) $\frac{1}{3}$ (c) 2 (d) $\frac{1}{2}$
- The minimum value of $4^x + 4^{1-x}$, $x \in \mathbb{R}$ is
(a) 2 (b) 4 (c) 1 (d) 0

☑ Chapter 09

Straight Lines

- The angle between the straight lines $x - y\sqrt{3} = 5$ and $\sqrt{3}x + y = 7$ is
(a) 90° (b) 60° (c) 75° (d) 30°

02. If p is the length of the perpendicular drawn from the origin to the line $\frac{x}{a} + \frac{y}{b} = 1$, then which one of the following is correct?
 (a) $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$ (b) $\frac{1}{p^2} = \frac{1}{a^2} - \frac{1}{b^2}$ (c) $\frac{1}{p} = \frac{1}{a} + \frac{1}{b}$ (d) $\frac{1}{p} = \frac{1}{a} - \frac{1}{b}$
03. What is the equation of the line passing through $(2, -3)$ and parallel to y -axis?
 (a) $y = -3$ (b) $y = 2$ (c) $x = 2$ (d) $x = -3$
04. If the lines $3x + 4y + 1 = 0$, $5x + \lambda y + 3 = 0$ and $2x + y - 1 = 0$ are concurrent, then λ is equal to
 (a) -8 (b) 8 (c) 4 (d) -4
05. The x -intercept and the y -intercept of the line $5x - 7 = 6y$, respectively are
 (a) 5 and 6 (b) $\frac{7}{5}$ and $-\frac{7}{6}$ (c) $\frac{5}{7}$ and $\frac{6}{7}$ (d) $-\frac{5}{7}$ and $\frac{6}{7}$

Chapter 10

Conic Sections

01. The equation of the circle which passes through the points of intersection of the circles $x^2 + y^2 - 6x = 0$ and $x^2 + y^2 - 6y = 0$; and has its centre at $(\frac{3}{2}, \frac{3}{2})$ is
 (a) $x^2 + y^2 + 3x + 3y + 9 = 0$ (b) $x^2 + y^2 + 3x + 3y = 0$
 (c) $x^2 + y^2 - 3x - 3y = 0$ (d) $x^2 + y^2 - 3x - 3y + 9 = 0$
02. Value of p , for which $x^2 + y^2 - 2px + 4y - 12 = 0$ represents a circle of radius 5 units is
 (a) 3 (b) -3 (c) both (a) and (b) (d) Neither (a) nor (b)
03. The eccentricity of the ellipse $9x^2 + 25y^2 = 225$ is e , then the value of ' $5e$ ' is
 (a) 3 (b) 4 (c) 2 (d) 1
04. The centre of the circle $x^2 + y^2 - 6x + 4y - 12 = 0$ is (a, b) , then $(2a + 3b)$ is
 (a) 0 (b) 2 (c) 3 (d) 5

Chapter 11

Introduction to Three Dimensional Geometry

01. A point on zx -plane which is equidistant from the points $(1, -1, 0)$, $(2, 1, 2)$, $(3, 2, -1)$ is
 (a) $(\frac{1}{5}, 0, \frac{31}{10})$ (b) $(\frac{1}{10}, 0, \frac{31}{5})$ (c) $(\frac{31}{10}, 0, \frac{1}{5})$ (d) $(\frac{31}{5}, 0, \frac{1}{10})$
02. A point on y -axis which is at a distance of $\sqrt{10}$ from the point $(1, 2, 3)$ is
 (a) $(2, 0, 2)$ (b) $(0, 2, 2)$ (c) $(2, 2, 2)$ (d) $(0, 2, 0)$
03. The locus of a point for which $y = 0$, $z = 0$ is
 (a) x -axis (b) y -axis (c) z -axis (d) y and z axes
04. A line is parallel to xy -plane, if all points on the line have equal
 (a) x -coordinates (b) y -coordinates (c) z -coordinates (d) x and y coordinates

Chapter 12

Limits & Derivatives

01. $\lim_{x \rightarrow \pi} \left(\frac{\sin x}{x - \pi} \right) =$
 (a) 1 (b) 2 (c) -1 (d) does not exist

02. If $\lim_{x \rightarrow 2} \frac{x^n - 2^n}{x - 2} = 80$, then n is
 (a) 2 (b) 3 (c) 4 (d) 5
03. If $L = \lim_{x \rightarrow 1} \frac{x^4 - 1}{x^3 - 1}$, then value of 3L is
 (a) 2 (b) 3 (c) 4 (d) 1
04. $\lim_{x \rightarrow 0} \frac{(1+x)^{16} - 1}{(1+x)^4 - 1} =$
 (a) 0 (b) 4 (c) 8 (d) 16
05. $\lim_{x \rightarrow 1} \frac{x + x^2 + x^3 + x^4 - 4}{x - 1}$ is
 (a) 0 (b) 4 (c) 10 (d) does not exist
06. $\lim_{x \rightarrow \frac{\pi}{4}} \frac{\sec^2 x - 2}{\tan x - 1}$ is
 (a) 0 (b) 1 (c) 2 (d) 4

Chapter 13
Statistics

01. The variance of 10 observations is 16 and their mean is 12. If each observation is multiplied by 4, what is the new mean?
 (a) 12 (b) 16 (c) 24 (d) 48
02. The variance of 10 observations is 16 and their mean is 12. If each observation is multiplied by 4, what is the new standard deviation?
 (a) 4 (b) 8 (c) 16 (d) 32
03. The standard deviation of 25 observations is 4 and their mean is 25. If each observation is increased by 10, what is the new mean?
 (a) 25 (b) 29 (c) 30 (d) 35
04. The standard deviation of 35 observations is 4 and their mean is 25. If each observation is increased by 10, what is the new variance?
 (a) 4 (b) 14 (c) 16 (d) 25
05. Consider the following table.
 Given that the mean of x_1, x_2, \dots, x_{20} is 10.

	COLUMN 1		COLUMN 2
A	Mean of $2x_1, 2x_2, \dots, 2x_{20}$	P	0
B	Mean of $(-3x_1 + 32), (-3x_2 + 32), \dots, (3x_{20} + 32)$	Q	2
C	Mean of $(x_1 + 2), (x_2 + 2), \dots, (x_{20} + 2)$	R	12
D	Mean of $(x_1 - 10), (x_2 - 10), \dots, (x_{20} - 10)$	S	20

- (a) $A \rightarrow P, B \rightarrow Q, C \rightarrow R, D \rightarrow S$ (b) $A \rightarrow S, B \rightarrow Q, C \rightarrow R, D \rightarrow P$
 (c) $A \rightarrow Q, B \rightarrow S, C \rightarrow R, D \rightarrow P$ (d) $A \rightarrow S, B \rightarrow Q, C \rightarrow P, D \rightarrow R$

Chapter 14
Probability

01. Without repetition of the digits, four digit numbers are formed with the numbers 0, 2, 3, 5.

- The probability of such a number divisible by 5 is
 (a) $\frac{1}{5}$ (b) $\frac{4}{5}$ (c) $\frac{5}{9}$ (d) $\frac{1}{30}$
02. Three digit numbers are formed using the digits 0, 2, 4, 6, 8. A number is chosen at random out of these numbers. What is the probability that this number has the same digits?
 (a) $\frac{1}{12}$ (b) $\frac{1}{16}$ (c) $\frac{4}{65}$ (d) $\frac{1}{25}$
03. The probability that a non-leap year selected at random will have 52 Sundays is
 (a) 0 (b) 1 (c) $\frac{1}{7}$ (d) $\frac{2}{7}$
04. The probability that a non-leap year selected at random will have 53 Sundays is
 (a) 0 (b) 1 (c) $\frac{1}{7}$ (d) $\frac{2}{7}$
16. If the probabilities for A to fail in an examination is 0.2 and that for B is 0.3, then the probability that either A or B fails is
 (a) $> \frac{1}{2}$ (b) $\frac{1}{2}$ (c) $\leq \frac{1}{2}$ (d) 0

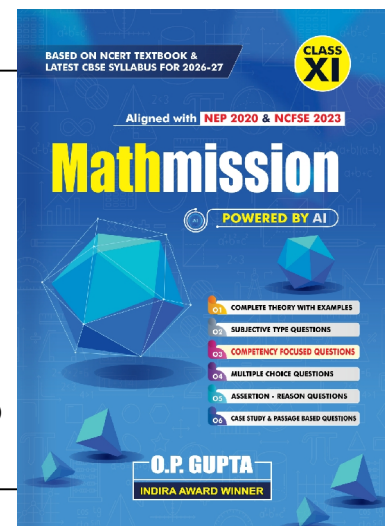
#WE-ARE-ON-MISSION

MATHMISSION FOR XI (2026-27)

For CBSE Exams ▪ Maths (041)

By **O.P. Gupta (Indira Award Winner)**

- ✦ Detailed Theory with Examples
- ✦ Subjective type Questions (Chapter-wise : 2, 3 & 5 Markers)
- ✦ H.O.T.S. Questions
- ✦ **COMPETENCY FOCUSED QUESTIONS**
 - ☑ Multiple Choices Questions (Chapter-wise)
 - ☑ Assertion-Reason (A-R) Questions (Chapter-wise)
 - ☑ Case Study / Passage Based Questions (Chapter -wise)
- ✦ ANSWERS of all Questions



✦✦ This FREE PDF is being shared to **HELP** teachers and students of class XI. We've added over **500 Multiple Choice Questions (MCQs)** in our **MATHMISSION FOR XI Book** by O.P. GUPTA.

✦ **SOLUTIONS FOR MATHMISSION** (Printed book) is also available! This book contains **Step-by-step Detailed Solutions** for all the questions of Exercises of Mathmission.

You can buy our books on **Amazon / Flipkart** or, message us on WhatsApp @ **+919650350480**.

For Bulk order related queries at Discounted Price, Please contact by WhatsApp @ +91 9650350480 (only message)

**BASED ON NCERT TEXTBOOK &
LATEST CBSE SYLLABUS FOR 2026-27**

**CLASS
XI**

Aligned with NEP 2020 & NCFSE 2023

Mathmission



POWERED BY AI



- 01 COMPLETE THEORY WITH EXAMPLES**
- 02 SUBJECTIVE TYPE QUESTIONS**
- 03 COMPETENCY FOCUSED QUESTIONS**
- 04 MULTIPLE CHOICE QUESTIONS**
- 05 ASSERTION - REASON QUESTIONS**
- 06 CASE STUDY & PASSAGE BASED QUESTIONS**

O.P. GUPTA

INDIRA AWARD WINNER

Join Our Mathematics Learning & Teachers Community

To support **collaborative learning and resource sharing** in Mathematics, dedicated WhatsApp groups have been created for:

Maths Teachers Community	Students of Classes XI & XII	Students of Classes IX & X
		

These groups aim to share:

- ✓ Quality Mathematics Resources
- ✓ Board Exam Discussions & Solutions
- ✓ Important Practice Questions & Updates
- ✓ Healthy Academic Interaction

① How to Join?

Please **scan the QR-Code** corresponding to your category (Teachers / Class IX - X Students / Class XI - XII Students) to join the relevant group.

Alternatively, you can **touch the QR-Code** too, after opening in the Drive PDF App.

✦ Important Guidelines

- Teachers are requested NOT to join student groups.
 - Students are requested NOT to join teachers' groups.
- ☑ If you are already a member of any of our existing groups, please avoid joining another group to prevent repeated notifications of the same resources. Instead, you may share this opportunity with your colleagues or students who may benefit from these Mathematics learning communities.

With Regards

O.P. Gupta

Author - Mathmission Series of Books

Founder & Mentor

THE O.P. GUPTA ADVANCED MATH CLASSES

@ Thana Road, Najafgarh, New Delhi

■ WhatsApp: +91 9650350480



Dedicated to helping students and teachers strengthen conceptual understanding and excel in Mathematics.

MATHEMATICIA BY O.P. GUPTA

...a name you can bank upon!



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

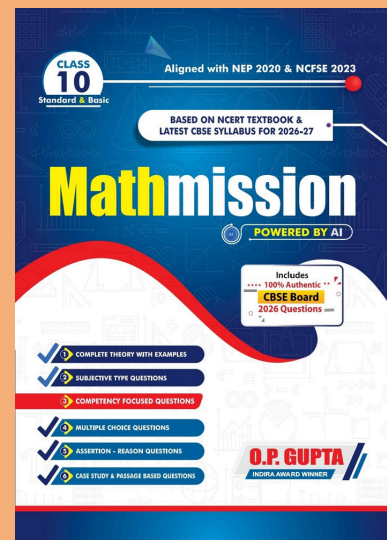
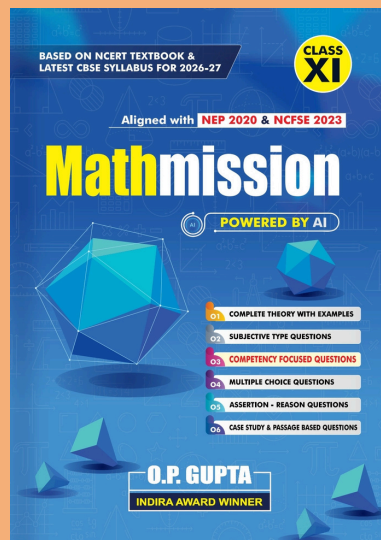
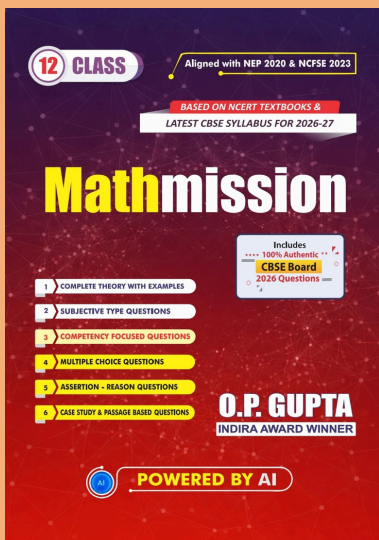
CLICK NOW

TO Download



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

or, just type -
theopgupta.com



Click on the
Book cover
to buy!



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

Latest 2026-27 Edition
**MATHMISSION
FOR XII, XI & X**
By **O.P. GUPTA**

Buy our
books on
amazon
Flipkart