



# MATRIX OLYMPAD

CSR Initiative of Matrix Education, Sikar to motivate and reward young talent.

✓ Total Questions : 60

✓ Maximum Marks : 240

✓ Duration : 2 Hrs.

## PAPER PATTERN

Part	(I) Physics	(II) Chemistry	(III) Biology	(IV) Mathematics	(V) Logical Reasoning & IQ
Number of Questions	7	6	7	30	10

**Marking Scheme:** +4 For Each Correct Answer (There is no negative for wrong answer)

### Instructions :

1. This Booklet is your **Question Paper**. DO NOT **break seal** of Booklet until the invigilator instructs to do so.
2. The Answer Sheet is provided to you separately which is a machine readable Optical Response Sheet (ORS). You have to mark your answer in the ORS by darkening bubble, as per your answer choice , by using **Black /Blue** ball point pen only.
3. If you are found involved in **cheating** or disturbing others then your ORS will be cancelled.
4. Do not **damage** the ORS sheet in any manner. If ORS is damaged or not completed properly, your results will not be prepared.
5. If you have any **confusion** in filling-up ORS sheet, please **contact** your invigilator. Incomplete ORS will be not be evaluated.
6. You can take the question paper home once the ORS is submitted.








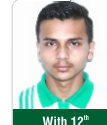


Answer Key and Video  
Solutions Kindly Scan  
QR Code and subscribe  
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# MATRIX: Where producing outstanding results is a habit!



## JEE ADVANCED TOPPERS

 With XII Mayank Soni	AIR <b>26</b> (Gen.)	 With XII Priyanshu Meel	AIR <b>154</b> (Gen.)	 With XII Nagendra Singh	AIR <b>220</b> (Gen.)	 With XII Mohit Modi	AIR <b>296</b> (Gen.)	 With XII Aman Nehra	AIR <b>356</b> (Gen.)	 With XII Himanshu Rewar	AIR <b>358</b> (Gen.)	 With XII Aarish	AIR <b>415</b> (Gen.)	 With XII Uttam Paharia	AIR <b>421</b> (Gen.)
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## JEE MAIN TOPPERS

100 %tile  With XII Mayank Soni	AIR <b>34</b> (Gen.)	99.99 %tile  With 12 <sup>th</sup> 15 (OBC) Nagendra Singh	AIR <b>123</b> (Gen.)	99.97 %tile  With 12 <sup>th</sup> 55 (SC) Shailesh Saini	AIR <b>354</b> (Gen.)	99.98 %tile  With XII Mohit Modi	AIR <b>213</b> (Gen.)	99.97 %tile  With XII Aman Nehra	AIR <b>393</b> (Gen.)	99.97 %tile  With 12 <sup>th</sup> Satyam Sharma	AIR <b>426</b> (Gen.)	99.96 %tile  With XII Anupam Jakhar	AIR <b>478</b> (Gen.)	99.95 %tile  With XII Uttam Paharia	AIR <b>509</b> (Gen.)
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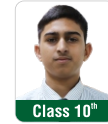
## NEET (UG) Toppers

Marks- <b>680</b>  Rekha Nitharwal	AIR <b>1665</b>	Marks- <b>670</b>  Narendra Farroda	AIR <b>2905</b>	Marks- <b>667</b>  Mahendra Yadav	AIR <b>3263</b>	Marks- <b>666</b>  Ankit Kumar Chahar	AIR <b>3378</b>	Marks- <b>665</b>  Deepika Soni	AIR <b>3545</b>	Marks- <b>665</b>  Lokesh Goyal	AIR <b>3621</b>	Marks- <b>665</b>  Mohit Haritwal	AIR <b>3661</b>
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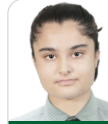





## KVPY TOPPERS

 Manas Jajodia	AIR <b>6</b> (Gen.) Stream- SB	 Ishu	AIR <b>8</b> (Gen.) Stream- SB	 Lakshya	AIR <b>13</b> (Gen.) Stream- SB	 Akshay Choudhary	AIR <b>17</b> (Gen.) Stream- SB	 Chirag Indoria	AIR <b>37</b> (Gen.) Stream- SB
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## STSE TOPPERS

 Aman Nehra	<b>1<sup>st</sup></b> State Rank Class 12 <sup>th</sup>	 Mayank Soni	<b>2<sup>nd</sup></b> State Rank Class 12 <sup>th</sup>	 Dinesh Kumar	<b>2<sup>nd</sup></b> State Rank Class 12 <sup>th</sup>	 Pranshu Bharia	<b>2<sup>nd</sup></b> State Rank Class 10 <sup>th</sup>	 Shrishti	<b>2<sup>nd</sup></b> State Rank Class 10 <sup>th</sup>	 Rohit Yadav	<b>2<sup>nd</sup></b> State Rank Class 10 <sup>th</sup>	 Dev Kumar	<b>3<sup>rd</sup></b> State Rank Class 10 <sup>th</sup>	 Mohd. Farhan	<b>3<sup>rd</sup></b> State Rank Class 10 <sup>th</sup>
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## OUR BOARD TOPPERS

<b>99.20%</b>  Class 10 <sup>th</sup> Pinakin Choudhary	<b>98.80%</b>  Class 10 <sup>th</sup> Aradhya Raina	<b>98.20%</b>  Class 10 <sup>th</sup> Laxmi	<b>98.00%</b>  Class 10 <sup>th</sup> Vishal Choudhary	<b>97.80%</b>  Class 10 <sup>th</sup> Preksha Singh	<b>97.80%</b>  Class 12 <sup>th</sup> Piyush Sagatani	<b>97.60%</b>  Class 12 <sup>th</sup> Khushee Binwal	<b>97.60%</b>  Class 12 <sup>th</sup> Reena	<b>97.60%</b>  Class 12 <sup>th</sup> Siddhant Lalpuria	<b>97.40%</b>  Class 12 <sup>th</sup> Rohit Yadav
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## NTSE TOPPERS

 Aditya Jhajhria	<b>1<sup>st</sup></b> State Rank	 Nayan Godara	<b>1<sup>st</sup></b> State Rank	 Aman Nehra	<b>1<sup>st</sup></b> State Rank	 Aaditya Pratap	<b>2<sup>nd</sup></b> State Rank	 Mayank Soni	<b>2<sup>nd</sup></b> State Rank	 Aditya Bijarniya	<b>4<sup>th</sup></b> State Rank	 Pragati	<b>5<sup>th</sup></b> State Rank
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Authenticity of result, promise of Matrix!

\*cumulative result so far

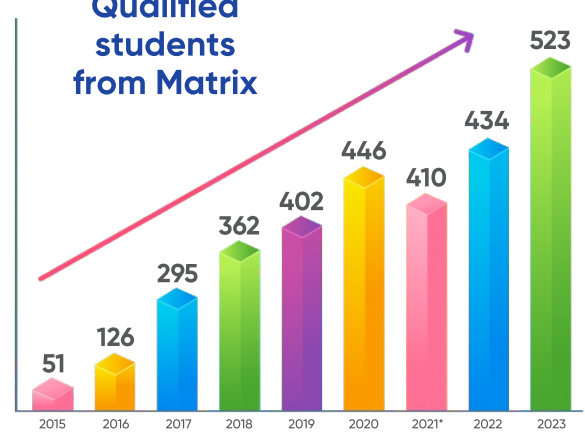
यह परिणाम मैट्रिक्स के केवल Yearlong classroom Program Students का ही है

# Remarkable result growth in both JEE Main & Advanced on a consistent basis

## JEE Main Qualified students from Matrix



## JEE Advanced Qualified students from Matrix



Note : All results are from Matrix year long classroom program at Sikar only.

\*due to covid

"Authenticity of result, promise of Matrix"

## HIGHLIGHTS at MATRIX

Total students  
qualified in  
**JEE Main**

**6700+**

students have been  
qualified in JEE main  
from matrix till date.

**2500+**

students have qualified  
**JEE Advanced**  
till date – Highest  
in Sikar

**2000+**

final admissions  
in various top IITs  
over last 5 years –  
Highest in Sikar

**3500+**

selection in NIT/IIITs  
and other or other  
Prestigious Universities  
Highest in Sikar

**2023** RESULT

Top score in  
JEE Main 2023  
Mayank Soni

Rank- **34**

Top scorer  
JEE Advanced 2023  
Mayank Soni

AIR- **26** (Gen)

**200** Doctors  
in very  
1st year of  
**Matrix NEET  
Division**

All India Rank **6**  
in KVPY 2021:  
**MANAS JAJODIA**

55+ total selections  
in KVPY over last  
4 years **45+**

More than  
**40,000**  
students have been  
beneficiary of  
**Matrix system**  
till date

Matrix has the largest  
pre-foundation career  
program in Sikar with  
highest number of  
enrolment and top  
results in all sort of  
competitive  
examinations.

Matrix System has  
produced one of  
the highest  
**NDA**  
selections in Sikar  
at a very early stage.

**70** selections  
in NDA 2023  
April attempt!

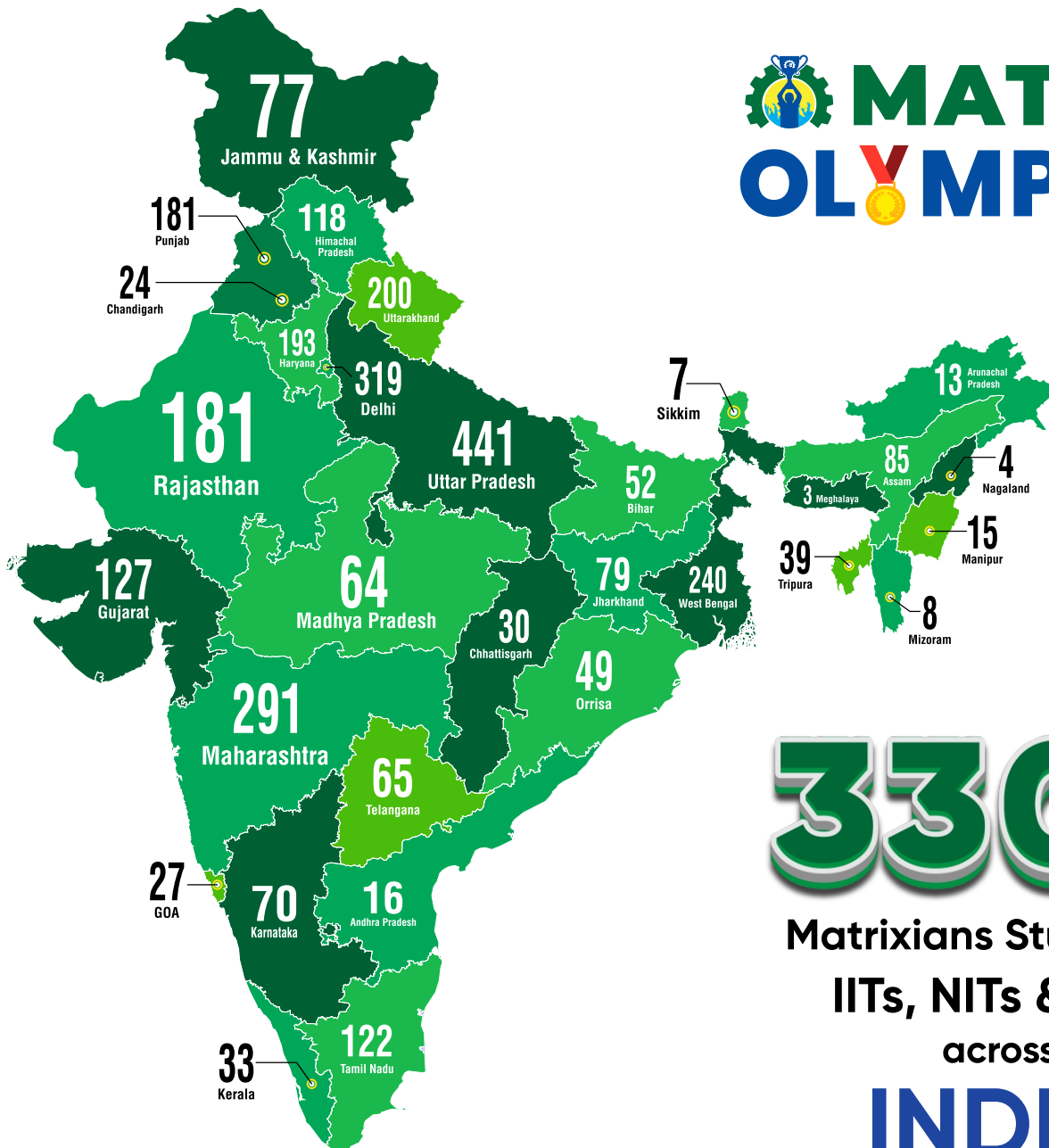
The Most  
**INNOVATIVE  
INSTITUTE** for  
**NEET, JEE &  
Pre-foundation**  
Covering & Serving

**5**  
Major State of  
the Country

Every student  
matters! Every  
student has  
potential!

Highest quality  
of management  
and student care  
for each student





# 3302

Matrixians Studied at  
IITs, NITs & IIITs  
across  
**INDIA**





**PART I : PHYSICS**

This section contains **07 Multiple Choice Questions (Q : 01 to Q : 07)**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

1. Ram went to school on bicycle with the average speed of 20 km/h. He saw that the school is closed and came back to home from same path with the average speed of 30 km/h.



The average speed of Ram's journey will be -

- (A) 25 km/h  
(B) 24 km/h  
(C) 30 km/h  
(D) 20 km/h
2. Which of the following is a scalar physical quantity?
- (A) Distance  
(B) Displacement  
(C) Velocity  
(D) Acceleration

3. The value of 10 degree centigrade temperature in Fahrenheit and Kelvin scales are respectively
- (A) 49° F, 273 K  
(B) 50° F, 283 K  
(C) 60° F, 293 K  
(D) 40° F, 303 K

4. Fastest mode of heat transfer is \_\_\_\_\_.  
(A) Conduction  
(B) Convection  
(C) Radiation  
(D) Heat transfer rate is same in all

5. Which of the following statement/s is/are **True(T)** or **False(F)** ?
- (i) For a moving body distance is always positive.  
(ii) For a moving body displacement can be positive, negative and zero.  
(iii) Acceleration is change in velocity per unit time.

**Code :**

- |     | (i) | (ii) | (iii) |
|-----|-----|------|-------|
| (A) | T   | F    | F     |
| (B) | T   | T    | T     |
| (C) | F   | F    | T     |
| (D) | F   | T    | F     |

Space for rough work

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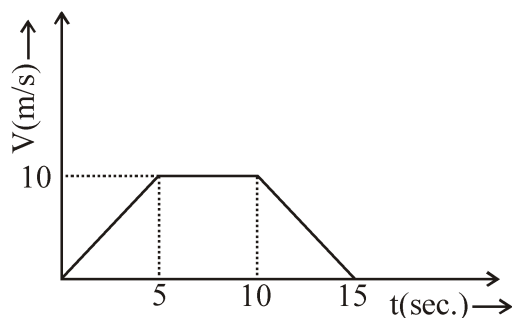
6. Match **Column – I** with **Column – II** and select the correct answer using the codes given below.

Column – I	Column – II
P. Thermometer	1. Metals
Q. Insulators	2. Temperature
R. Conductors	3. Wool and Plastic

Code :

	P	Q	R
(A)	1	3	2
(B)	2	1	3
(C)	3	2	1
(D)	2	3	1

7. Maahi is driving his car through a road full of traffic. Jaddu, sitting alongside Maahi, analysing the motion of the car, and making fun of Maahi's driving skills. The motion of Maahi's car is shown below in velocity - time graph.



According to the v - t graph, the magnitude of car's maximum acceleration (in  $\text{m/s}^2$ ) during the motion is :

- (A) 2  
(B) 1  
(C) 3  
(D) 4

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Space for rough work

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## PART II : CHEMISTRY

This section contains **06 Multiple Choice Questions (Q : 08 to Q : 13)**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

8. What is the scientific name of mulberry tree ?  
 (A) Mangifera indica  
 (B) Morus alba  
 (C) Desmodium girence  
 (D) Alpaca
9. Which of the following material is/are used for clothing in ancient times -  
 (A) Animal skins  
 (B) Leaves  
 (C) Vines  
 (D) All of these
10. Which one of the following is not a breed of sheep -  
 (A) Murrah  
 (B) Marwari  
 (C) Lohi  
 (D) Bakharwal
11. Which of the following statement/s is/are **True(T)** or **False(F)** ?  
 (i) Acids are sour in taste.  
 (ii)  $H_2SO_4$  is acidic in nature.  
 (iii) Calcium hydroxide is used for white washing of building.

**Code :**

(i) (ii) (iii)

- (A) T F F  
 (B) T T T  
 (C) F F T  
 (D) F T T

12. Match **Column – I** with **Column – II** and select the correct answer using the codes given below.

Column – I	Column – II
P. Strong acid	1. NaCl
Q. Strong base	2. HCl
R. Table salt	3. NaOH

**Code :**

- |     |          |          |          |
|-----|----------|----------|----------|
|     | <b>P</b> | <b>Q</b> | <b>R</b> |
| (A) | 2        | 3        | 1        |
| (B) | 3        | 2        | 1        |
| (C) | 3        | 1        | 2        |
| (D) | 1        | 2        | 3        |

Space for rough work

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13. An olfactory indicator is defined as a substance whose smell varies when it is mixed with an acidic or basic solution. Example Onion, clove oil etc. Onion is an olfactory indicator where it has two distinct smell in presence of acid and base. Onion in acid retains its normal smell. Onion in the presence of a basic solution, loses its smell. What is the nature of onion ?
- (A) Acidic  
(B) Basic  
(C) Both (A) and (B)  
(D) None of these

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*Space for rough work*

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### PART III : BIOLOGY

This section contains **07 Multiple Choice Questions (Q : 14 to Q : 20)**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

**14.** The annual record of long term average temperature and rainfall at a particular place is known as \_\_\_\_\_.

- (A) Humidity
- (B) Climate chart
- (C) Weather
- (D) Weather forecasting

**15.** Maximum temperature of the day occurs generally\_\_\_\_\_.

- (A) In the afternoon
- (B) When the sun rises
- (C) When the sun sets
- (D) In the evening

**16.** Generally nocturnal, large padded feet, less sweating, mechanism to conserve water, etc. are adaptive features of animals living in\_\_\_\_\_.

- (A) Polar regions
- (B) Tropical regions
- (C) Desert regions
- (D) Equatorial regions

**17.** Tiny pores present on the surface of leaves through which gaseous exchange occurs are called\_\_\_\_\_.

- (A) Stomatal pores
- (B) Guard cells
- (C) Food holes
- (D) Gas holes

**18.** Which of the following statement/s is/are **True(T)** or **False(F)** ?

- (i) Digestion of starch starts in the stomach.
- (ii) The tongue helps in mixing the food with saliva.
- (iii) The ruminants bring, back swallowed grass into their mouth and chew it for sometime.

**Code :**

- |     | (i) | (ii) | (iii) |
|-----|-----|------|-------|
| (A) | T   | F    | F     |
| (B) | F   | T    | T     |
| (C) | F   | F    | T     |
| (D) | F   | T    | F     |

*Space for rough work*

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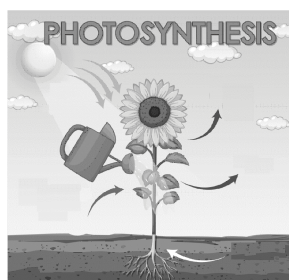
19. Match **Column – I** with **Column – II** and select the correct answer using the codes given below.

Column – I	Column – II
P. Salivary gland	1. Digestion is completed
Q. Small intestine	2. Liver
R. Bile juice secretion	3. Saliva secretion

**Code :**

	P	Q	R
(A)	2	3	1
(B)	2	1	3
(C)	3	1	2
(D)	1	3	2

20. Photosynthesis is the process in which solar energy is trapped by chlorophyll to convert carbon dioxide and water to produce food in the form of glucose. It is produced in plants where chlorophyll is present inside the chloroplast as trapping the solar energy initiates the process.



During the process of photosynthesis which one of the following is released as a by-product\_\_\_\_\_.

- (A) Oxygen
- (B) Nitrogen
- (C) Carbon dioxide
- (D) Hydrogen

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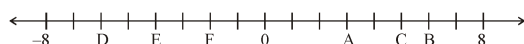
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# PART IV : MATHEMATICS

This section contains 30 Multiple Choice Questions (Q : 21 to Q : 50). Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

21. Look at the number line shown below.



Which of the following statements is not true ?

- (A)  $A - E = 7$   
 (B)  $D - C = -11$   
 (C)  $B + F = 8$   
 (D)  $C - (E + 1) = B - F$
22. What should be multiplied by  $(-12)$  in order to get 180 ?  
 (A) 15  
 (B)  $-15$   
 (C) 16  
 (D)  $-16$
23. The value of the expression  $42 - (-152) + (-9) - (-39) + (-45) - 28 - 85$  is :  
 (A)  $-550$   
 (B)  $-78$   
 (C)  $-32$   
 (D) 66
24. Which number gives the same result when added to  $1\frac{1}{2}$  and when multiplied by  $1\frac{1}{2}$  ?  
 (A) 1  
 (B) 3

(C) 5

(D) 7

25. Simplify:

$$\frac{1}{4} + \left[ \frac{1}{2} \times \frac{1}{2} \div \left\{ \frac{1}{2} \times \frac{1}{2} \div \frac{1}{2} + \left( \frac{1}{2} \div \frac{1}{2} \right) \right\} \right]$$

(A)  $\frac{1}{2}$

(B)  $\frac{1}{9}$

(C)  $\frac{5}{6}$

(D)  $\frac{5}{12}$

26. Which of the following has the largest value ?

(A)  $\frac{32}{0.05}$

(B)  $\frac{0.32}{50}$

(C)  $\frac{3.2}{0.05}$

(D)  $\frac{3.2}{50}$

Space for rough work

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27. The weight of 9 girls (in kg) of a group are 40, 46, 41, 36, 41, 37, 36, 35, 36

Which of the following statements is correct with respect to the above given data ?

- (A) Mean < Mode < Median
- (B) Mean < Median < Mode
- (C) Mode < Median < Mean
- (D) Mode < Mean < Median

28. The mean of p, q and r is 14. Twice the sum of q and r is 30. Then p is equals to :

- (A) 12
- (B) 16
- (C) 20
- (D) 27

29. Which of the following sets of data has same mean, median and mode ?

- (A) 4, 6, 4, 3, 4, 3, 4
- (B) 2, 3, 8, 3, 7, 3, 2
- (C) 3, 2, 3, 1, 2, 2, 4
- (D) 1, 4, 3, 4, 5, 2, 6

30. The value of a variable which satisfies an equation is called its :

- (A) Solution
- (B) Expression
- (C) Inequality
- (D) Error

31. Solve for x:  $\frac{3}{4}(7x-1) - \left(2x - \frac{1-x}{2}\right) = x + \frac{3}{2}$

- (A) 1
- (B) -1
- (C)  $\frac{3}{2}$
- (D)  $-\frac{3}{2}$

32. In 10 years, A will be twice as old as B was 10 years ago. If at present A is 9 years older than B, the present age of B is :

- (A) 19 years
- (B) 29 years
- (C) 39 years
- (D) 49 years

33. The sum of seven consecutive numbers is 175. What is the difference between thrice the smallest number and twice the largest number ?

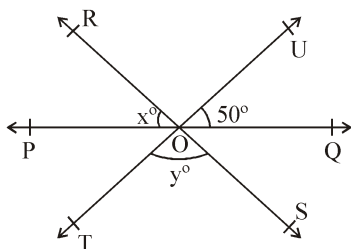
- (A) 7
- (B) 8
- (C) 10
- (D) 12

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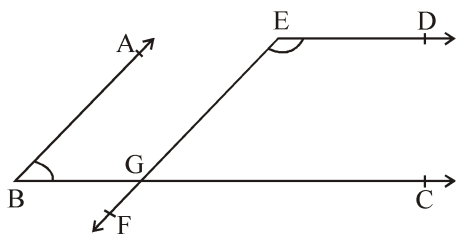
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34. In the given figure  $\overleftrightarrow{PQ}$ ,  $\overleftrightarrow{RS}$  and  $\overleftrightarrow{TU}$  are three straight lines intersecting each other at O. If y is thrice of x then the value of y is :

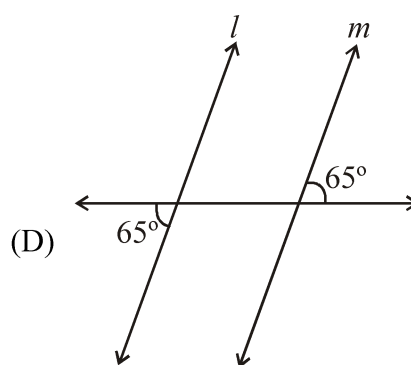
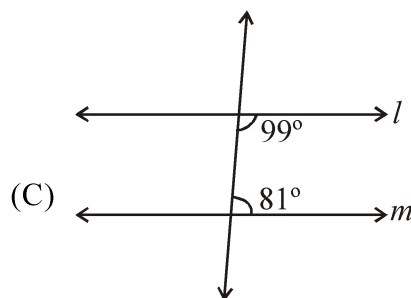
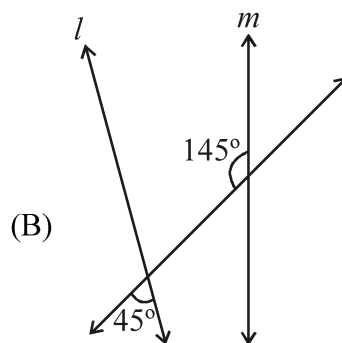
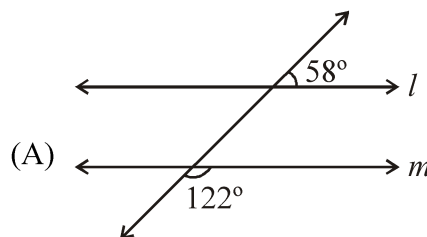


- (A)  $32.5^\circ$   
(B)  $35^\circ$   
(C)  $97.5^\circ$   
(D)  $98^\circ$
35. Two angles  $\angle ABC$  and  $\angle DEF$  are such that  $AB \parallel EF$  and  $BC \parallel DE$ , as shown in the figure. Then which of the following statements is correct ?



- (A)  $\angle ABC = \angle DEF$   
(B)  $\angle ABC + \angle DEF = 90^\circ$   
(C)  $\angle ABC + \angle DEF = 180^\circ$   
(D) None of these

36. In which of the following cases is the line  $l$  not parallel to the line  $m$  ?



Space for rough work

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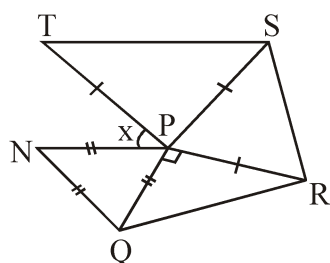
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37. When two parallel lines are intersected by a transversal, then each of the following pairs of angles are equal, except :

- (A) Corresponding angles
- (B) Alternate interior angles
- (C) Alternates exterior angles
- (D) Co-interior angles

38. In the given figure PST is an isosceles triangle, QPR is a right-angled triangle, NQP and PRS are equilateral triangles. If  $\angle PST = 45^\circ$  and  $\angle PQR = 52^\circ$  then the value of x is :



- (A)  $38^\circ$
- (B)  $40^\circ$
- (C)  $44^\circ$
- (D)  $60^\circ$

39. In a  $\triangle ABC$ , if  $AB + BC = 10$  cm,  $BC + CA = 12$  cm,  $CA + AB = 16$  cm, then find the sum of the lengths of its sides.

- (A) 19 cm
- (B) 17 cm
- (C) 38 cm
- (D) 30 cm

40. The length of the sides of certain triangles are given below. Which of the following is a right triangle ?

- (A) 4 cm, 5.2 cm, 7 cm
- (B) 2.4 cm, 3.2 cm, 4 cm
- (C) 5 cm, 5.25 cm, 6.25 cm
- (D) None of these

41. Which of the following statement/s is/are **True(T)** or **False(F)** ?

- (i) The sum of an integer and its opposite is always 0.
- (ii) The product of an integer and its opposite is always 0.
- (iii) When two positive integers are subtracted, their difference is always a positive integer.

Code :

- |     | (i) | (ii) | (iii) |
|-----|-----|------|-------|
| (A) | T   | F    | F     |
| (B) | T   | T    | T     |
| (C) | F   | F    | T     |
| (D) | F   | T    | F     |

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42. Which of the following statement/s is/are **True(T)** or **False(F)** ?

- (i) The product of 7 and  $3\frac{6}{4}$  is  $31\frac{1}{2}$ .
- (ii) All fractions can be expressed as mixed fractions.
- (iii) 1 is the only positive number which is its own reciprocal.

**Code :**

(i) (ii) (iii)

- (A) T F T
- (B) T T T
- (C) F F F
- (D) F T F

43. Which of the following statement/s is/are **True(T)** or **False(F)** ?

- (i) If ABC is a triangle right angled at B, then hypotenuse will be AC.
- (ii) The acute angles of a right triangle are complementary.
- (iii) The altitude of a triangle always lie in its interior.

**Code :**

(i) (ii) (iii)

- (A) T F F
- (B) T T T
- (C) F F T
- (D) T T F

44. Match **Column – I** with **Column – II** and select the correct answer using the codes given below.

Column – I	Column – II
------------	-------------

- |  |   |
|--|---|
| <p><b>P.</b> For any two integers ‘a’ and ‘b’, <math>a \times b</math> is also an integer. Thus, integers are</p>                    | <p><b>1.</b> Closed under multiplication</p>                    |
| <p><b>Q.</b> For any two integers ‘a’ and ‘b’, <math>a \times b = b \times a</math>. Thus, integers are</p>                          | <p><b>2.</b> Commutative under multiplication</p>               |
| <p><b>R.</b> For any three integers ‘a’, ‘b’ and ‘c’ <math>a \times (b + c) = a \times b + a \times c</math>. Thus, integers are</p> | <p><b>3.</b> Distributive under addition and multiplication</p> |

**Code :**

- |     | P | Q | R |
|-----|---|---|---|
| (A) | 1 | 3 | 2 |
| (B) | 3 | 2 | 1 |
| (C) | 1 | 2 | 3 |
| (D) | 2 | 1 | 3 |

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45. Match **Column – I** with **Column – II** and select the correct answer using the codes given below.

Column – I	Column – II
------------	-------------

P.  $3.04 + 2.13 - 0.17$  1. 1

Q. The product of 0 and  $2\frac{3}{5}$  2. 5

R. The reciprocal of 1 is 3. 0

Code :

	P	Q	R
(A)	1	2	3
(B)	2	3	1
(C)	3	1	2
(D)	2	1	3

46. Match **Column – I** with **Column – II** and select the correct answer using the codes given below.

Column – I	Column – II
------------	-------------

P.  $5 = \frac{2}{3}(2x - 1)$  1.  $\frac{3}{5}$

Q.  $\frac{y-5}{y+2} = \frac{8}{7}$  2. -51

R.  $5x + 2 = 5$  3.  $\frac{17}{4}$

Code :

	P	Q	R
(A)	2	3	1
(B)	3	1	2
(C)	3	2	1
(D)	2	1	3

### Paragraph for Questions 47 & 48

A group of students is learning about the properties of angles and the concepts of lines. During their study session, they encountered the following scenario:

In their classroom, there is a wall with a vertical line drawn on it. The line is intersected by a horizontal line, forming four angles. The students observed the following:

The angle formed at the top-left corner is acute. The angle formed at the top-right corner is obtuse.

The angle formed at the bottom-left corner is a right angle.

Based on this information, the students were asked to analyze the angles formed by the intersecting lines.

Answer the following questions correctly.

47. The acute angle formed at the top-left corner measures:
- (A) 90 degrees  
(B) Less than 90 degrees  
(C) More than 90 degrees  
(D) None of these

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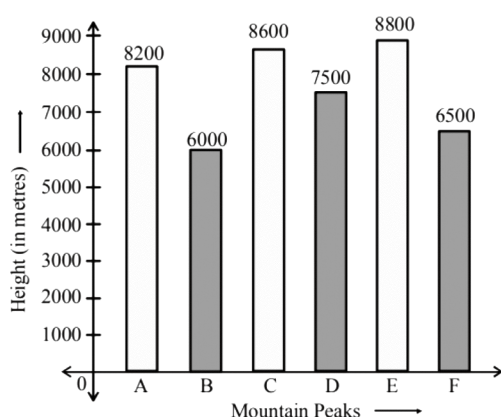
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48. The right angle formed at the bottom left corner measures :
- (A) 90 degrees  
(B) 180 degrees  
(C) 270 degrees  
(D) 360 degrees

**Paragraph for Questions 49 & 50**

Read the below diagram and answer the following:



49. Which is the highest peak ?
- (A) A  
(B) E  
(C) C  
(D) B

50. Write the ratio of the heights of highest peak and the lowest peak.
- (A) 22 : 15  
(B) 15 : 22  
(C) 20 : 13  
(D) 13 : 22

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# PART V : LOGICAL REASONING & IQ

This section contains **10 Multiple Choice Questions (Q : 51 to Q : 60)**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

- |  |   |
|--|---|
| <p><b>51.</b> 3, 13, 39, 89, 171, ?</p> <p>(A) 272</p> <p>(B) 293</p> <p>(C) 282</p> <p>(D) 281</p> <p><b>52.</b> 10, 15, 24, 37, 54, 75, ?</p> <p>(A) 102</p> <p>(B) 101</p> <p>(C) 106</p> <p>(D) 100</p> <p><b>53.</b> Choose the correct alternative from the given ones that will complete the series.</p> <p>AM , BO , DR, GV, ?</p> <p>(A) MB</p> <p>(B) KA</p> <p>(C) KB</p> <p>(D) JA</p> <p><b>54.</b> Point F is 10 m to the South of E. Point G is 3 m to the East of F. Point H is 5 m to the South of G. Point I is 6 m to the West of H. Point J is 10 m to the North of I. Point K is 6 m to the East of J. Point L is 5 m to the North of K. Which of the following represents the direction of point G with respect to point J ?</p> | <p>(A) South-East</p> <p>(B) North-West</p> <p>(C) North-East</p> <p>(D) South</p> <p><b>55.</b> If '×' stands for 'addition', '÷' stands for 'subtraction', '+' stands for 'multiplication' and '-' stands for 'division', then <math>20 \times 8 \div 8 - 4 + 2 = ?</math></p> <p>(A) 80</p> <p>(B) 25</p> <p>(C) 24</p> <p>(D) 5</p> <p><b>56.</b> In a row of a students, Mohan is at 10<sup>th</sup> place from right end and Sohan is at 25<sup>th</sup> place from left end. When they interchange their position then mohan becomes 22<sup>nd</sup> from right end. What is the new position of Sohan from left end ?</p> <p>(A) 35<sup>th</sup></p> <p>(B) 36<sup>th</sup></p> <p>(C) 37<sup>th</sup></p> <p>(D) 38<sup>th</sup></p> |
|--|---|






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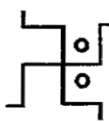


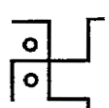
57. Pariniti ranked 17<sup>th</sup> from the top and 28<sup>th</sup> from the bottom among those who made it to the final round of Miss India Contest. 14 girls failed in the previous round. How many girls enrolled in the contest ?
- (A) 55  
(B) 56  
(C) 57  
(D) 58

**Direction (58-59) :** In the following questions you have to visualize the image of the item figures in the water image. Choose the water image from the alternatives.

- 58.
- 
- (A) 
- (B) 
- (C) 
- (D) 

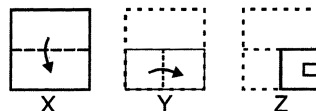
59.







- (A) 
- (B) 
- (C) 
- (D) 

60.

A sheet has been folded in the manner as shown in X, Y and Z respectively and punched. You have to choose from the alternatives how it will look when unfolded.



- (A) 
- (B) 
- (C) 
- (D) 

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