MATRIX OLYMPIAD

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.
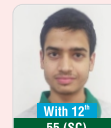6. You can take the question paper home once the ORS is submitted.

Answer Key and Video Solutions Kindly Scan QR Code and subscribe Matrix youtube channel

MATRIX: Where producing outstanding results is a habit!

JEE ADVANCED TOPPERS

	AIR			
Mayank Soni	**26** (Gen.) With XII			
Priyanshu Meel	**154** (Gen.) With XII			
Nagendra Singh	**220** (Gen.) With XII			
Mohit Modi	**296** (Gen.) With XII			
Aman Nehra	**356** (Gen.) With XII			
Himanshu Rewar	**358** (Gen.) With XII			
Aarish	**415** (Gen.) With XII			
Uttam Paharia	**421** (Gen.)			

JEE MAIN TOPPERS

- **100 %tile** — Mayank Soni — AIR **34** (Gen.) With XII
- **99.99 %tile** — Nagendra Singh — AIR **123** (Gen.) With 12th 15 (OBC)
- **99.97 %tile** — Shailesh Saini — AIR **354** (Gen.) With 12th 55 (SC)
- **99.98 %tile** — Mohit Modi — AIR **213** (Gen.) With XII
- **99.97 %tile** — Aman Nehra — AIR **393** (Gen.) With XII
- **99.97 %tile** — Satyam Sharma — AIR **426** (Gen.) With 12th
- **99.96 %tile** — Anupam Jakhar — AIR **478** (Gen.) With XII
- **99.95 %tile** — Uttam Paharia — AIR **509** (Gen.)

NEET (UG) Toppers

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

KVPY TOPPERS

- Manas Jajodia — AIR **6** (Gen.) Stream- SB
- Ishu — AIR **8** (Gen.) Stream- SB
- Lakshaya — AIR **13** (Gen.) Stream- SB
- Akshay Choudhary — AIR **17** (Gen.) Stream- SB
- Chirag Indoria — AIR **37** (Gen.) Stream- SB

STSE TOPPERS

- Aman Nehra — **1st** State Rank — Class 12th
- Mayank Soni — **2nd** State Rank — Class 12th
- Dinesh Kumar — **2nd** State Rank — Class 12th
- Pranshu Bharia — **2nd** State Rank — Class 10th
- Shrishti — **2nd** State Rank — Class 10th
- Rohit Yadav — **2nd** State Rank — Class 10th
- Dev Kumar — **3rd** State Rank — Class 10th
- Mohd. Farhan — **3rd** State Rank — Class 10th

OUR BOARD TOPPERS

- **99.20%** — Pinakin Choudhary — Class 10th
- **98.80%** — Aradhya Raina — Class 10th
- **98.20%** — Laxmi — Class 10th
- **98.00%** — Vishal Choudhary — Class 10th
- **97.80%** — Preksha Singh — Class 10th
- **97.80%** — Piyush Sagatani — Class 12th
- **97.60%** — Khushee Binwal — Class 12th
- **97.60%** — Reena — Class 12th
- **97.60%** — Siddhant Lalpuria — Class 12th
- **97.40%** — Rohit Yadav — Class 12th

NTSE TOPPERS

- Aditya Jhajhria — **1st** State Rank
- Nayan Godara — **1st** State Rank
- Aman Nehra — **1st** State Rank
- Aaditya Pratap — **2nd** State Rank
- Mayank Soni — **2nd** State Rank
- Aditya Bijarniya — **4th** State Rank
- Pragati — **5th** State Rank

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

Year	Value
2015	176
2016	453
2017	800
2018	832
2019	892
2020	1000
2021*	930
2022	1120
2023	1732

JEE Advanced Qualified students from Matrix

Year	Value
2015	51
2016	126
2017	295
2018	362
2019	402
2020	446
2021*	410
2022	434
2023	523
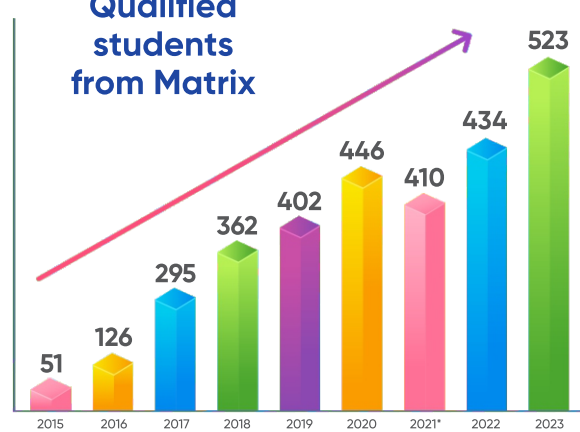
*due to covid

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

"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

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.

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

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

MATRIX OLYMPIAD

77 Jammu & Kashmir
181 Punjab
118 Himachal Pradesh
24 Chandigarh
200 Uttarakhand
193 Haryana
319 Delhi
181 Rajasthan
441 Uttar Pradesh
7 Sikkim
13 Arunachal Pradesh
85 Assam
4 Nagaland
3 Meghalaya
52 Bihar
15 Manipur
39 Tripura
127 Gujarat
64 Madhya Pradesh
30 Chhattisgarh
79 Jharkhand
240 West Bengal
8 Mizoram
49 Orrisa
291 Maharashtra
65 Telangana
27 GOA
70 Karnataka
16 Andhra Pradesh
122 Tamil Nadu
33 Kerala

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. A boy weighing 70 N stands on grass wearing shoes of area 20 cm^2 with a girl weighing 55 N and wearing heels of area 0.2 cm^2. Who will exert greater pressure ?

(A) The girl will exert more pressure

(B) The boy will exert more pressure

(C) Both will exert equal pressure

(D) Difficult to predict

2. Why do mountaineers need oxygen cylinder at higher altitudes ?

(A) There is no oxygen on high mountains

(B) Oxygen is used for cooking

(C) High atmospheric pressure

(D) Low oxygen availability in air

3. Which of the following is not a non-contact force ?

(A) Gravitational force

(B) Magnetic force

(C) Friction force

(D) Electrostatic force

4. The force of friction depends on which of the following factors ?

(A) Nature of surfaces in contact

(B) Weight of the object

(C) Both (A) and (B)

(D) None of these

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

(i) A force acting on an object can change its direction of motion but cannot change its dimensions.

(ii) Friction is an evil as it has all disadvantages with no advantage at all.

(iii) Gravitational force holds the planets around the sun in their orbits.

Code :

	(i)	*(ii)*	*(iii)*
(A)	T	F	F
(B)	T	T	T
(C)	F	F	T
(D)	F	T	F

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

Column – I	Column – II
P. Lubricant	**1.** Heat
Q. Friction produces	**2.** Lesser friction
R. Soapy floor	**3.** Oil and grease

Code :

Space for rough work

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

7. Two bricks each of same dimensions are placed on ground. Surface area of end of each brick is 40 cm^2 and the surface area of base of each brick is 150 cm^2. Each brick's weight is 40 N. If both bricks are placed one over the other, then the maximum pressure will be :
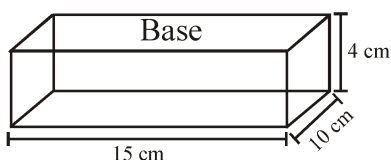
(A) 2000 N m^{-2}

(B) 1500 N m^{-2}

(C) 20000 N m^{-2}

(D) 6000 N m^{-2}

Space for rough work

***** M08291023 *****

"Be passionate and bold. Always keep learning. You stop doing useful things if you don't learn."

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. Identify the synthetic fibre which resembles wool.

(A) Rayon

(B) Terylene

(C) Nylon

(D) Acrylic

9. Five 'R' in 5R principle are reduce, reuse, refuse _____.

(A) Recycle and recover

(B) Regain and recover

(C) Retain and regain

(D) Reform and regain

10. Non metal used in vulcanization of rubber is :

(A) Sulphur

(B) Carbon

(C) Phosphorus

(D) Nitrogen

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

(i) If a piece of copper is placed in silver nitrate solution, the solution becomes blue.

(ii) Copper and aluminium are bad conductor of electricity.

(iii) Silver is more reactive than iron.

Code :

	(i)	*(ii)*	*(iii)*
(A)	T	F	F
(B)	T	T	T
(C)	F	F	T
(D)	F	T	F

12. Match **Column – I (Ore)** with **Column – II (Metals to be extracted)** and select the correct answer using the codes given below.

Column – I	Column – II
P. Cinnabar	**1.** Al
Q. Bauxite	**2.** Fe
R. Haematite	**3.** Hg

Code :

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

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Space for rough work

13. Pieces of copper, lead, aluminium and zinc are added to dilute hydrochloric acid. Which of the following test tubes most likely contains copper ?

(I)   (II)   (III)   (IV)

(A) (I)

(B) (II)

(C) (III)

(D) (IV)
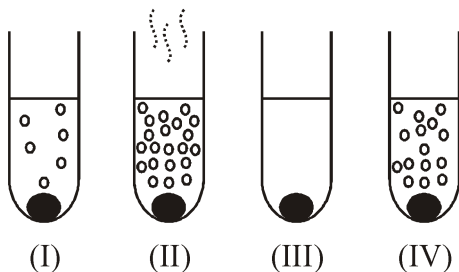
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PART III : BIOLOGY

*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. Which of the following micro-organism contain chlorophyll.

(A) Virus

(B) Fungus

(C) Algae

(D) All of the above

15. Arrange the following agricultural practices in the order in which they are followed.

1. Harvesting

2. Sowing

3. Storage

4. Irrigation

5. Preparation of soil

(A) $1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 5$

(B) $5 \rightarrow 2 \rightarrow 4 \rightarrow 1 \rightarrow 3$

(C) $2 \rightarrow 1 \rightarrow 3 \rightarrow 5 \rightarrow 4$

(D) $5 \rightarrow 3 \rightarrow 4 \rightarrow 1 \rightarrow 2$

16. Malaria disease is caused by :

(A) Protozoa

(B) Bacteria

(C) Virus

(D) Algae

17. Which crop is cultivated by transplantation method of sowing ?

(A) Barley

(B) Maize

(C) Wheat

(D) Paddy

18. It is a organism which feed on dead organic matter and its body organisation includes branching mycelia. It also has a fruiting structure.

(A) Spirogyra

(B) Chlorella

(C) Chylamydomonas

(D) Bread mould

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Space for rough work

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

(i) Manure increase is not associated with harvest season.

(ii) Holi festival is not associated with harvest season.

(iii) The supply of water to crops at regular intervals is called irrigation.

Code :

	(i)	*(ii)*	*(iii)*
(A)	T	F	T
(B)	T	T	T
(C)	F	F	T
(D)	F	T	F

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

Column – I	Column – II
P. Ring worm	**1.** Plasmodium
Q. Pneumonia	**2.** Bacteria
R. Malaria	**3.** Fungus

Code :

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

***** M08291023 *****

Space for rough work

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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. Which of the following expressions shows that rational numbers are associative under multiplication ?

(A) $\frac{2}{3} \times \left(\frac{-6}{7} \times \frac{3}{5} \right) = \left(\frac{2}{3} \times \frac{-6}{7} \right) \times \frac{3}{5}$

(B) $\frac{2}{3} \times \left(\frac{-6}{7} \times \frac{3}{5} \right) = \frac{2}{3} \times \left(\frac{3}{5} \times \frac{-6}{7} \right)$

(C) $\frac{2}{3} \times \left(\frac{-6}{7} \times \frac{3}{5} \right) = \left(\frac{3}{5} \times \frac{2}{3} \right) \times \frac{-6}{7}$

(D) $\left(\frac{2}{3} \times \frac{-6}{7} \right) \times \frac{3}{5} = \left(\frac{-6}{7} \times \frac{2}{3} \right) \times \frac{3}{5}$

22. $|-104| - 54 = ?$

(A) 158

(B) 50

(C) –381

(D) –105

23. The product of a non-zero rational number with natural number is always :

(A) Natural number

(B) Rational Number

(C) Both (A) and (B)

(D) None of these

24. Five years ago, Aman was thrice as old as Bhavi and ten years later, Aman shall be twice as old as Bhavi. What is the present age of Aman.

(A) 20

(B) 50

(C) 60

(D) 40

25. Solve : $5x - 2(2x-7) = (3x-1) + \frac{7}{2}$

(A) 2

(B) 3

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

(D) $\frac{23}{4}$

26. In an equation the values of the expressions on the LHS and RHS are_____.

(A) Different

(B) Not equal

(C) Equal

(D) None of these

Space for rough work

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M08291023

27. A diagonal of a rectangle is inclined to one side of the rectangle at 25°. What is the measure of the acute angle between the diagonals ?

(A) 25°

(B) 40°

(C) 50°

(D) 55°

28. ABCD is a parallelogram. The angle bisectors of ∠A and ∠D meet at O. What is the measure of ∠AOD ?

(A) 45°

(B) 90°

(C) 75°

(D) 180°

29. The perimeter of a parallelogram is 180 cm. If one side exceeds the other by 10 cm. What are the sides of the parallelogram ?

(A) 40 cm, 50 cm

(B) 45 cm each

(C) 50 cm each

(D) 45 cm, 50 cm

30. If three dice are thrown simultaneously. Find total number of possible outcomes.

(A) 36

(B) 6

(C) 216

(D) None of these

31. Study the following pie-charts carefully and answer the question that follows.
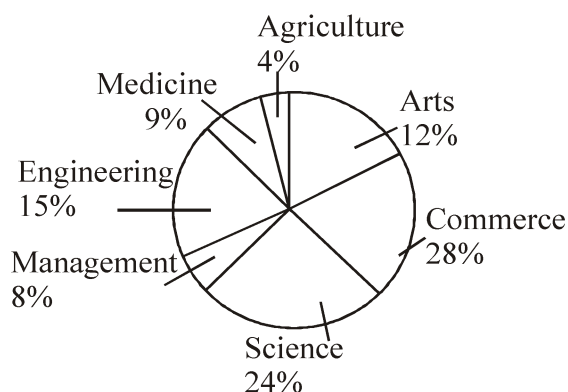
2022-23 student survey

Number of understudy in Medicine in the years 2022-23 is what percent of number of understudy in science, Engineering and Medicine together in the years 2022-23 ?

(A) 16.25 %

(B) 21.5 %

(C) 23.25 %

(D) 18.75 %

32. The frequency distribution of a numerical data can be graphically represented by a _____ ?

(A) Histogram

(B) Telegram

(C) Monogram

(D) Anagram

Space for rough work

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"Be passionate and bold. Always keep learning. You stop doing useful things if you don't learn." **Page No. : 8**

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33. The smallest number which should be added to the number 8958 so the result is a perfect square is :

(A) 69

(B) 67

(C) 77

(D) 79

34. The number of perfect square numbers between 50 and 1000 is :

(A) 21

(B) 22

(C) 23

(D) 24

35. Which of the following is not pythagorean triplet ?

(A) 3, 4, 5

(B) 7, 24, 25

(C) 5, 12, 13

(D) 8, 20, 25

36. $\sqrt[3]{0.000125}$ is equal to

(A) 0.005

(B) 0.5

(C) 0.05

(D) 0.15

37. $\sqrt[3]{15612 + \sqrt{154 + \sqrt{225}}}$ is equal to :

(A) 125

(B) 15

(C) 75

(D) 25

38. The interest received at 15 % per annum on simple interest after 3 years is Rs. 630. What was the principal amount ?

(A) Rs. 1200

(B) Rs. 1750

(C) Rs. 1400

(D) Rs. 2000

39. In what time will Rs. 1000 becomes Rs 1331 at 10% per annum compounded annually ?

(A) $3\dfrac{1}{2}$ years

(B) 3 years

(C) 2 years

(D) $2\dfrac{1}{2}$ years

40. An item marked at Rs 240 is sold for Rs 192. What is the discount ?

(A) 23%

(B) 24%

(C) 20%

(D) 25%

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

(i) Any rational number can have only one lowest form.

(ii) Product of two rational number can some times be a natural number.

(iii) The absolute value of (-5.2) is –5.

***** M08291023 *****

Space for rough work

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Code :

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

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

(i) The sum of square of first n numbers is
$$\frac{n(n+1)(2n+1)}{6}.$$

(ii) All numbers of a pythagorean triplet are not odd.

(iii) 987453678 is a perfect square.

Code :

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

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

(i) The equality of two ratios is called proportion.

(ii) 2500 is greater than 500 by 500%.

(iii) If a : b = 4 : 7 and b : c = 5 : 14 then a : c is 2 : 7.

Code :

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

44. Match **Column – I (word problem)** with **Column – II (with respective algebraic equation)** and select the correct answer using the codes given below.

Column – I	Column – II
P. The sum of two numbers is 25. One of the numbers exceeds the other by 9.	**1.** 2(x + 2x) = 72
Q. The length of a rectangle is twice its breadth. If the perimeter is 72 units.	**2.** 3(x + 10) = 5x
R. A number is divided into two parts, such that one part is 10 more than the other, If the two parts are in the ratio 5 : 3.	**3.** 2x + 9 = 25

Space for rough work

Code :

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

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

Column – I	Column – II
P. A graph, depicts the frequency of data in the form of pictures and symbols, is called	**1.** Pie chart
Q. A graph showing two sets of data simultaneously is called	**2.** Double bar graph
R. A circle divided into several sectors is called	**3.** Pictograph

Code :

	P	Q	R
(A)	2	3	1
(B)	3	1	2
(C)	3	2	1
(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. A quadrilateral which is equiangular but not equilateral is called	**1.** Rectangle
Q. A quadrilateral, having one pair of opposite side parallel, is called	**2.** Rhombus
R. A quadrilateral having equal sides and opposite angles equal is called	**3.** Isosceles Trapezium

Code :

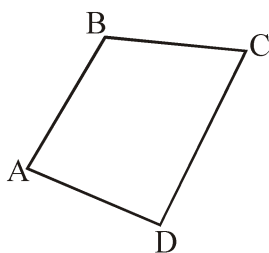|	P	Q	R
(A)	1	3	2
(B)	3	1	2
(C)	3	2	1
(D)	1	2	3

Space for rough work

***** M08291023 *****

Paragraph for Questions 47 & 48

After summer vacations, Manit's class teacher organised a small MCQ quiz, based on the properties of quadrilaterals. During quiz, she asks different questions to students. Some of the questions are listed below.

47. Which of the following is/are the condition(s) for ABCD to be a quadrilateral ?

   (A) The four points A, B, C and D must be distinct and co-planar.

   (B) No three of points A, B, C and D are collinear.

   (C) Line segments i.e. AB, BC, CD, DA intersect at their end points only.

   (D) All of these

48. Which of the following is wrong condition for a quadrilateral said to be a parallelogram ?

   (A) Opposite sides are equal

   (B) Opposite angles are equal

   (C) Diagonals can't bisect each other

   (D) None of these

Paragraph for Questions 49 & 50

One day, during games period four friends A, B, C and D planned to play game using number cards. They prepared 25 numbered cards with labelled 1 to 25 and then, they put all the number cards in the empty chalk box available in the classroom. In this game, every friend was asked to pick the card randomly and after each draw, card was replaced back in the chalk box.
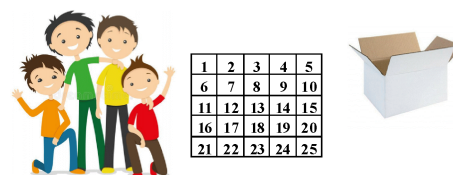
49. Find the probability, first boy pick the card and he get the card with an odd number.

   (A) $\dfrac{1}{4}$

   (B) $\dfrac{10}{25}$

   (C) $\dfrac{13}{25}$

   (D) $\dfrac{12}{25}$

50. If the card drawn in first case is replaced and the second boy draw a card. What is the probability getting a composite number card ?

   (A) $\dfrac{3}{5}$

   (B) $\dfrac{4}{5}$

   (C) $\dfrac{7}{8}$

   (D) $\dfrac{9}{11}$

Space for rough work

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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.*

Direction (51 – 52) Find the missing number which will complete the given series :

51. 31, 29, 24, 22, 17, ?

(A) 15

(B) 14

(C) 13

(D) 12

52. 4, 18, ?, 100, 180, 294

(A) 62

(B) 48

(C) 38

(D) 86

53. The following letter series has some letters missing from it. Complete the series by using one of the options:

a_bbc_aab_cca_bbcc

(A) bacb

(B) acba

(C) abba

(D) caba

Direction (54-55) : Read the given information carefully and answer the questions.

Car X starts from point A and travels in a straight line towards North for 8 km and takes a right turn and travels for 12 km and then turns towards left and travels for 6 km then taking a right turn and travels for 10 km and now takes a right turn and travels for 15 km and reaches a point B, which is 8 km towards West of the point C where car Y stands.
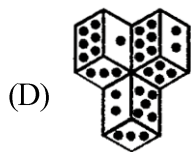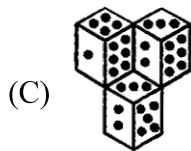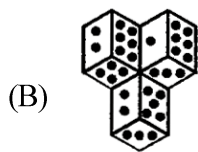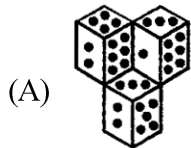
54. What is the position of car Y with respect to initial position of car X ?

(A) East

(B) North-West

(C) South-East

(D) South-West

55. What is total distance travelled by car X towards the east direction ?

(A) 10 km

(B) 22 km

(C) 29 km

(D) 30 km

Space for rough work

56. In this question, choose the correct water–image of the given figure (x) from amongst the four alternatives.

(X)

(A)

(B)

(C)

(D)

57. In row of 35 people facing the North, R is 10th place from the right end and there 10 people between R and P. What is P's position from the left end of the row ?

(A) 15th

(B) 13th

(C) 17th

(D) 19th

58. Select the mathematical operation that when sequintially placed in place of question marks (?) of the given expression will complete it.
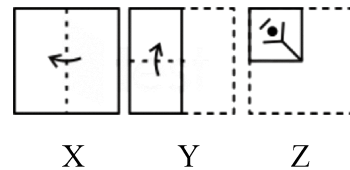162? 18? 27? 2? 45

(A) $\div, \times, +, =$ (B) $\times, \div, +, =$

(C) $\div, =, \times, -$ (D) $\div, \times, -, =$

59. If A means 'plus', B means 'minus', C means 'divided by' and D means 'multiplied by', then
8 A 12 C 6 D 2 B 5 = ?

(A) 15   (B) 45

(C) 27   (D) None of these

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

X   Y   Z

(A)

(B)

(C)

(D)

Space for rough work