

### **GURUSHALA NATIONAL APTITUDE TEST 2023**

### LETTER TO THE STUDENT

Pravin Pandurang hajare Enrollment Number: 9589571209 Sangli, Maharashtra

### Dear Pravin,

Thank you for attempting Gurushala's National Aptitude Test 2023 (GNAT 2023). We know you must be eagerly awaiting the result and we are happy to inform you that your learning analysis report is now ready. This letter will provide you with a quick summary of what to expect and the next steps. We have also included a brief note for your teachers and parents so that they can help you further in your learning journey.

### All the best!

### Here is a quick look at your results!

- Your overall score for GNAT 2023 is 23.68% and you have achieved Rank 5619 in your state: Maharashtra.
- You have scored highest in Numerical Aptitude: 13.46%. Congratulations!
- 100% questions attempted by you were correct

Please check out the complete report for a detailed analysis!

### How will GNAT 2023 help you?



When we study various subjects in our classes, they help us acquire knowledge of certain concepts as well as the use of certain skills. For example, skills include being able to count, to use grammar when we speak and write, to make choices and so on. These skills help us to think and act wisely. GNAT 2023 was designed to help you understand where you stand on these skills.



### Why are skills important?

Many a times, you may realise that you don't remember the details of a topic you learnt earlier in the year. For example, you may not remember the year of the Indus Valley Civilization or the exact definition of garbage. But you would remember how we can use the ideas of town planning of Indus Valley to make our present day cities better. Or you may remember how you can use kitchen waste to make compost instead of throwing it in the dustbin. This is how skills help us: they aid us in thinking about what we learn and using it to make life better for us and people around us.



### A note for Pravin's Teachers, Parents, and Guardians!

Sir/Madam,

We have immense pleasure in providing you with Shubhendu's Learning Analysis Report. We would request you the following:

- This time, the report has been designed such that students like Pravin can understand their performance by themselves. Please do encourage Shubhendu to read the report and share with you the main takeaways.
- The report includes a section on Learning Pathway which suggests specific resources that Shubhendu can use to improve and further strengthen his skills. Please go through the section and decide with Shubhendu the number of hours to be allocated weekly to improving his skills.

Please write to us at info@gurushala.co or contact us at +91 11 49059416, 49059417 for any support that you may need regarding this report.

### All The Best,

Gurushala

Thank you for attempting the Assessment. Best wishes for the final Score!



### **GURUSHALA NATIONAL APTITUDE TEST 2023**



### **LEARNING ANALYSIS REPORT**

Full Name Pravin Pandurang hajare

Enrollment Number 9589571209

Class	9
State	Maharashtra
District	Sangli
Assessment Date	30, Jan 2023
Phone Number	7219375908







# 5777

All India Rank

# 5619

Your State rank

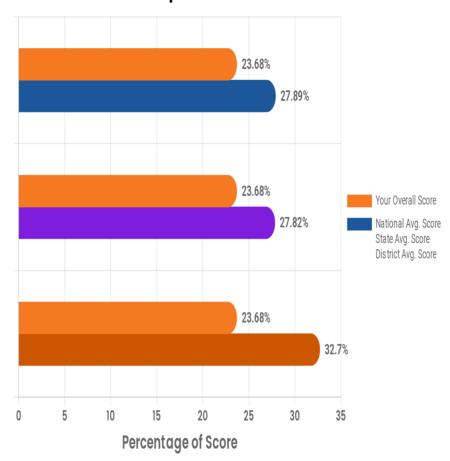
### 1064

Your District Rank

\*Ranks are awarded to the students based on their overall performance considering skill, level of difficulty and aptitude of the questions in the Gurushala National Aptitude Test.



# **Comparision of Scores**

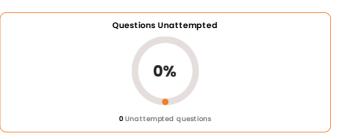


- You have scored overall 23.68% in camparision to the national average score which is 27.89%
- The overall score on an average of student in your state is 27.82% while your overall score is 23.68%
- Student in Sangli have scored on an average is 32.7% while your overall score is 23.68%

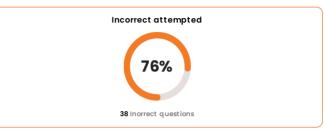
### Total Questions: Attempted, Correct & Incorrect

Have a look at the total number of questions you have attempted, questions answered correctly and incorrectly









Scientific Aptitude	
Total Questions	10
Total Attempted	10
Total Correct	2
Total InCorrect	8
Total Percentage Attempted vs Correct	20%

Logical Reasoning	
Total Questions	10
Total Attempted	10
Total Correct	4
Total InCorrect	6
Total Percentage Attempted vs Correct	40%

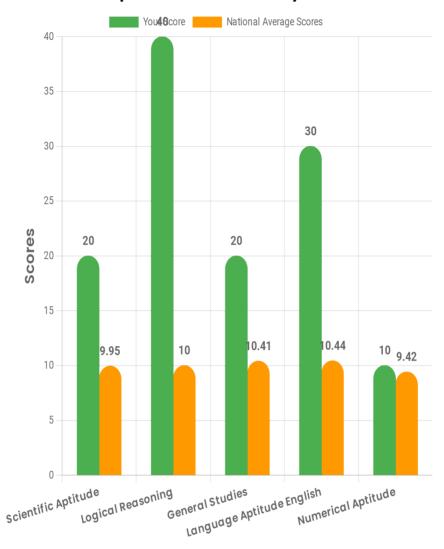
General Studies	
Total Questions	10
Total Attempted	10
Total Correct	2
Total InCorrect	8
Total Percentage Attempted vs Correct	20%

Language Aptitude English	
Total Questions	10
Total Attempted	10
Total Correct	3

Total InCorrect	7
Total Percentage	30%
Attempted vs Correct	30%

Numerical Aptitude	
Total Questions	10
Total Attempted	10
Total Correct	1
Total InCorrect	9
Total Percentage Attempted vs Correct	10%

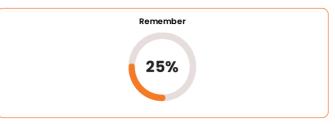
# Aptitude - Wise Analysis



- You have scored 13.46% in Numerical Aptitude which is higher than the National Average score in this subject
- You have scored 7.84% in Numerical Aptitude which is lower than the National Average score in this subject

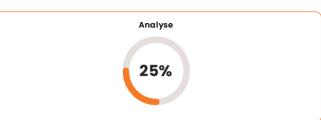
## Skill-Wise Analysis

Let's have a look at how well you were able to recall the information, demonstrate understanding, and apply your knowledge by finding the patterns to solve the problems











### **GURUSHALA NATIONAL APTITUDE TEST 2023**

### **SKILL-WISE REPORT**





**23.68%** SCORE



**24%** CORRECT



**76%** INCORRECT



**5777**NATIONAL RANK

### Remember

There were some questions in GNAT 2023 to test how well can you exhibit your memory of previously learnt concepts. This requires you to to recall information studied earlier like facts, terms, definitions, characteristics etc. Let's see your result!

For example: When you are asked the definition of photosynthesis, or the characteristics of Hydrogen.

Total Questions

Total Attempted

Total Correct

Total Incorrect

Total Percentage
Attempted vs Correct

Total Questions 2
Total Attempted 2
Total Correct 0
Total Incorrect 2
Total Percentage Attempted vs Correct

Total Questions

Total Attempted

Total Correct

Total Incorrect

Total Percentage
Attempted vs Correct

# Numerical Aptitude Total Questions 1 Total Attempted 1 Total Correct 0 Total Incorrect 1 Total Percentage Attempted vs Correct 0%

### Understand

There were some questions in GNAT 2023 to test how well have you understood a concept, phenomenon, etc. by identifying the correct explanation of a concept, summarising key points, comparing, and so on.

For example: Questions that ask you to demonstrate the movements of the earth or compare the flow of a river in the mountains versus the flow in plains.

# Total Questions Total Attempted Total Correct Total Incorrect Total Percentage Attempted vs Correct

General Studies	
Total Questions	5
Total Attempted	5
Total Correct	1
Total Incorrect	4
Total Percentage Attempted vs Correct	20%

Language Aptitude English	
Total Questions	3
Total Attempted	3
Total Correct	2
Total Incorrect	1
Total Percentage Attempted vs Correct	66.67%

Numerical Aptitude	
Total Questions	1
Total Attempted	1
Total Correct	0
Total Incorrect	1
Total Percentage Attempted vs Correct	0%

### Apply

There were some questions in GNAT 2023 to test how well are you able to apply what you have learnt, remember and understand to new situations, real world exercises and challenges to solve or address them.

For example: Questions that ask you to identify ways how a Gram Sabha can make a village better or to identify which method of soil conservation a farmer in the hills should use etc.

# Total Questions 3 Total Attempted 3 Total Correct 0 Total Incorrect 3 Total Percentage Attempted vs Correct

General Studies	
Total Questions	1
Total Attempted	1
Total Correct	0
Total Incorrect	1
Total Percentage Attempted vs Correct	0%

Language Aptitude English	
Total Questions	3
Total Attempted	3
Total Correct	1
Total Incorrect	2
Total Percentage Attempted vs Correct	33.33%

Numerical Aptitude	
Total Questions	5
Total Attempted	5
Total Correct	0
Total Incorrect	5
Total Percentage Attempted vs Correct	0%

### Analyse

There were some questions in GNAT 2023 to test how well are you able to use your learning to think, reason, find patterns and make connections.

For example: Questions that ask you to analyse what evidences found by archaeologists can tell us about the Indus Valley Civilisation etc.

Total Questions

Total Attempted

Total Correct

Total Incorrect

Total Percentage
Attempted vs Correct

Logical Reasoning	
Total Questions	10
Total Attempted	10
Total Correct	4
Total Incorrect	6
Total Percentage Attempted vs Correct	40%

Language Aptitude English	
Total Questions	2
Total Attempted	2
Total Correct	0
Total Incorrect	2
Total Percentage Attempted vs Correct	0%

General Studies	
Total Questions	3
Total Attempted	3
Total Correct	1
Total Incorrect	2
Total Percentage Attempted vs Correct	33.33%

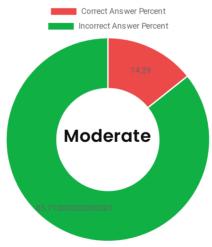
Numerical Aptitude	
Total Questions	3
Total Attempted	3
Total Correct	1
Total Incorrect	2
Total Percentage Attempted vs Correct	33.33%

# **Question Type**

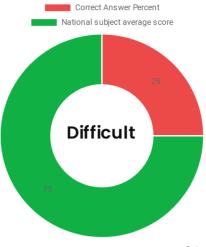
Easy/ Medium Difficult-Wise Analysis



# TOTAL EASY QUESTIONS- 8 ATTEMPTED QUESTIONS- 6



TOTAL MODERATE QUESTIONS - 28
ATTEMPTED QUESTIONS - 22



TOTAL DIFFICULT QUESTIONS - 24
ATTEMPTED QUESTIONS - 22

**VIEW LEARNING PATHWAYS** 

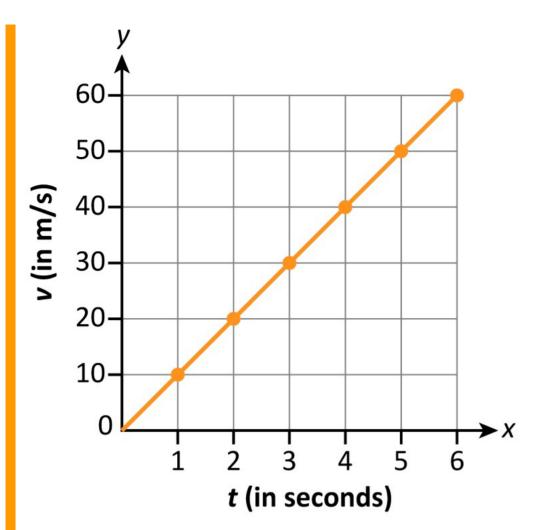


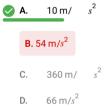
### **GURUSHALA NATIONAL APTITUDE TEST 2023**

### **QUESTION WISE REPORT**

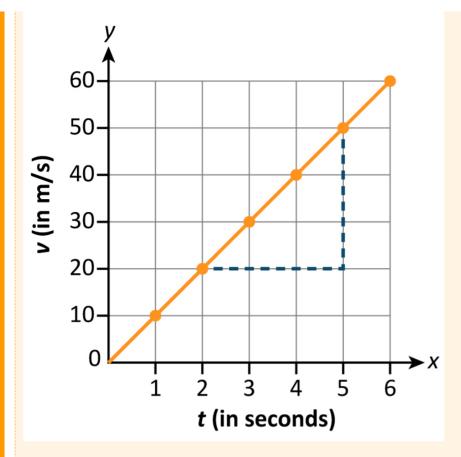


1. The image shows the velocity-time graph of an object. What is the acceleration of the object?





The acceleration of an object from the velocity-time graph is calculated by the slope, i.e.,



### Acceleration,

$$a = \frac{v_2 - v_1}{t_2 - t_1}$$

$$a = \frac{50 - 20}{5 - 2} a = \frac{30}{3} = 10 \frac{m}{s^2}$$

So, the acceleration of the object is 10  $\frac{m}{s^2}$ 

### 2. Which of the following is the correct example of the gravitational force?

- A. a girl pushing a toy car on the floor
- B. lightning flash during the thunderstorm

C. sticking of fridge magnets to its door

D. falling of a leaf from the tree

### **\*** Solution:

The leaf falls from the tree in a downward direction due to the influence of gravitational force. The gravitational force acting on an object tends it towards Earth's centre.

# 3. A person applies a force of 250 N to push a stone which displaces to a distance of 2 m. Which equation correctly gives the calculation of work done in the given case?

**A.** W= 250 N- 2 m

**B**. W=250 N+2m



W=250 N×2m

**D.**  $W = \frac{250 N}{2 m}$ 



The work done is calculated as the product of the force applied on an object and the distance moved by it. Since the force applied on an object is 250 N and the distance it moved is 2 m, the work done will be calculated as,

Work done=Force×Displacement

W=250 N×2m

### 4. Which of the following statement correctly defines the momentum of an object?

- It is the product of the mass of the object and its velocity.
  - It is the ratio of the mass of the object and its acceleration.
  - It is the ratio of the mass of the object and its velocity.
  - It is the product of the mass of the object and its acceleration. D.



### **Solution:**

The momentum is the quantity of the motion of an object. It is defined as the product of the motion of an object and its velocity.

- 5. Amaya takes two pieces of butter and wraps them separately in a wet and a dry cloth during a hot day of the summer season. Which statement correctly predicts what will happen with pieces of butter wrapped in both clothes after some time?
  - Pieces of butter wrapped in both wet and dry clothes will melt.
- The piece of butter wrapped in the wet cloth will not melt, while the piece of butter wrapped in the dry cloth will melt.

**C.** Pieces of butter wrapped in both wet and dry clothes will not melt.

The piece of butter wrapped in the wet cloth will melt, while the piece of butter wrapped in the dry cloth will not melt.



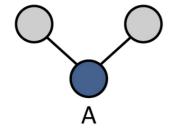
### Solution:

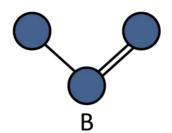
The piece of butter wrapped in the wet cloth will not melt as the water in the wet cloth will evaporate due to the high temperature. The cooling caused by the evaporation of water keeps the temperature of butter low, while the piece of butter wrapped in the dry cloth will melt due to the high temperature.

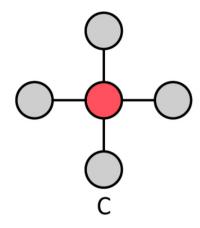
6.

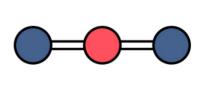
The image shows the molecular models of different substances in which balls of different colours represent different types of atoms.

Which of these substances are elements and compounds?









D

Element: A and B Compound: C and D



Element: B

Compound: A, C and D

Element: C and D Compound: A and B

Element: A

Compound: B, C and D



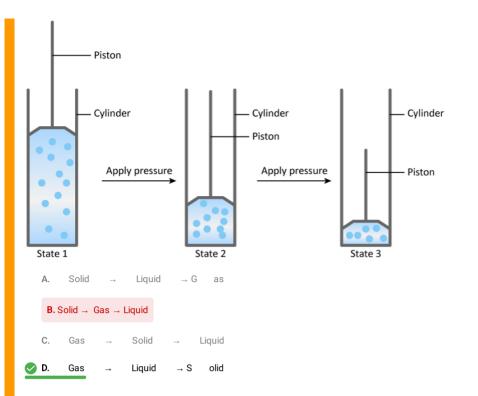
### **Solution:**

An element is the simplest form of substance, and its molecules contain only one type of atom, while a compound's molecule is formed by the combination of two or more elements.

Substance B's molecule has only one type of atom. Therefore, B is an element. The molecules of substances A, C and D have different types of atoms. Therefore, A, C and D compounds.

The image shows the transition of a substance from one state to another by applying pressure on it.

Which transition of states is observed in the image?



On applying pressure, the particles of a substance come closer, and the intermolecular space decreases. Due to this, the state of a substance changes, as shown in the image. This transition of state on applying pressure is as follows:

 $Gas \ \rightarrow \ Liquid \ \rightarrow \ Solid$ 

### 8. Which statement correctly defines the movement of molecules in the process of osmosis?

- A. movement of solvent molecules from a higher concentration region to a lower concentration region through a selectively permeable membrane
  - В. movement of solute molecules from a lower concentration region to a higher concentration region
  - C. movement of solvent molecules from a lower concentration region to a higher concentration region
  - D. movement of solute molecules from a higher concentration region to a lower concentration region through a selectively permeable membrane



## Solution:

The movement of solvent molecules from a higher concentration region to a lower concentration region through a selectively permeable membrane is known as osmosis.

9. A student made a table listing the cell organelles based on their functions. Which option correctly represents the cell organelles mentioned by the student in the table?

Cell organelles	Functions
1	It helps produce energy in the form of ATP.
2	It helps in the process of photosynthesis in plants.
3	It helps in the removal of waste and keeps the cell clean.
4	It helps in the synthesis of proteins.

Chloroplast; 2- Mitochondria; 3- Ribosome; 4- Lysosome

B. 1- Mitochondria; 2- Chloroplast; 3- Ribosome; 4- Lysosome

- C. 1- Mitochondria; 2- Chloroplast; 3- Lysosome; 4- Ribosome
  - Chloroplast; 2- Mitochondria; 3- Lysosome; 4- Ribosome

### Solution:

Mitochondria are known as the powerhouse of the cell as it produces energy that is stored in the form of ATP. Chloroplast is a cell organelle present in plants that helps in the process of photosynthesis due to the presence of chlorophyll. Lysosomes are known as the suicidal bags as it releases digestive enzymes. The digestive enzymes digest any foreign particle or worn-out cell organelle. Thus, it helps in keeping the cell clean. Ribosomes are attached to the rough endoplasmic reticulum. The ribosomes are the sites of protein synthesis.

### 10. Which of the following is the most appropriate method for storing grains?

A. storing grains that are little immature with moisture content

- storing grains without exposing them to sunlight
- drying the grains only in the shade before storage
- D. drying the grains in sunlight before storage



### **Solution:**

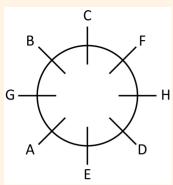
The proper cleaning of grains should be done before storage. The drying of grains in sunlight is essential to prevent them from any damage. The grains are then dried in the shade, and fumigation using chemicals is done to kill pests.

11. Eight friends A, B, C, D, E, F, G and H are sitting in a circle, but not necessarily in the same order. D is an immediate neighbour of E. H sits second to the right of E. B sits third to the left of E and third to the right of H. A is not an immediate neighbour of B but it is sitting second to the left of D. G is an immediate neighbour of B and A. F is sitting third to the right of E. C is an immediate neighbour of B. Who is sitting between H and C?



C. G





In the question, it is mentioned that F is sitting third to the right of E, which is the exact middle position between H and C. Hence, F is the correct answer.

12. There are eight people in a family viz. B, K, A, C, D, E, G and H consists of 3 generations. D and A are the daughter and son of K respectively and both are married. E is the sister of H whose father is C. B and G are Siblings and B is the son-in-law of E. K is the brother-in-law of H. Who among the following is sister-in-law of D?

A. K

B. E

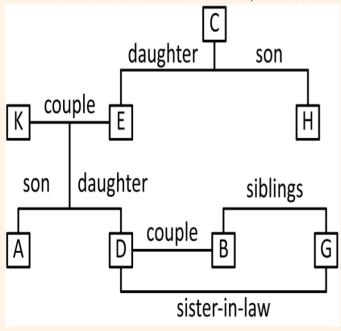






### **Solution:**

From the given question, we can conclude that K and E are husband and wife, they have one daughter D and one son A. D is married to B, who has a sister G. So D and G will be sister-in-laws. Thus, G is the correct answer.



13. Which of the following is NOT a role of river in formation of human society nearby it?



Electricity generation

D. Domestic activities



### **Solution:**

Wind energy is not generated by the river and does not contribute to the formation of a human society nearby a river.

### 14. Choose the correct reason of India having a 'monsoon' type of climate.

- Because India experiences four seasons in a year
- Because of India's hot and dry season
- C. Because India has a vast variety of vegetation

Because India experiences a high amount of precipitation



## **Solution:**

The main reason of India having a 'monsoon' type of climate is its high precipitation level in form of rain and snow throughout the year. The Northern regions like the Himalayas experience snowfall and the Peninsular and coastal regions mainly experience a good amount of rainfall.

### 15. Statement: If it is easy to become an engineer, I don't want to be an engineer.

### **Assumptions:**

- 1. An individual aspires to be professional.
- 2. One desire to achieve a thing which is hard-earned





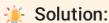
### **Solution:**

In the statement, it is mentioned that one rejects a thing which is easy to achieve so only assumption 2 is correct and there is nothing professional information provided about assumption 1, So only assumption 2 is correct.

### 16. Select the most appropriate verb to complete the sentence.

### Ravi was \_\_\_\_\_ hurriedly to catch his train.

D.	. Ravi wa	ıs <u>reacting</u> hu	reacting hurriedly to catch his train.	
O C	. Ravi wa	as <u>rushing</u>	<u>g</u> hur	rriedly to catch his train.
В	. Ravi wa	as <u>annour</u>	ncing	hurriedly to catch his train.
Α	. Ravi wa	as <u>slowing</u>	g hui	rriedly to catch his train.



The above verb fits the adverb 'hurriedly' suitably and depicts a sense of urgency, thereby making the sentence meaningful.

### 17. Change the following statement into indirect speech. Do you live here, Vijay?

- Does Vijay live here?
- B. Vijay was asked if he lived there.

C. Where is Vijay living?

Did Vijay live here?



### **Solution:**

The statement is a perfect example of reported speech since the question and the verb are in the past tense.

18. The first pair of words follows a relationship. If the same relationship is followed by the second pair, which word will replace the question mark?

Obese: Fat:: Slender:?

- Plumn
- B. Thin
  - C. Thick
  - D. Chubby



### **Solution:**

As obese and fat are synonym words which means excessive body fat. Similarly Slender and thin are synonyms which means less body fat. Hence, thin is the correct option.

19. Identify the correct sentence by rearranging the jumbled words. the/test/driving/Sudha/time/on/finished.

- A. Sudha finished the driving test on time.
  - The driving test on time finished Sudha.
  - The driving test finished Sudha on time.

D. The on time driving test finished Sudha.



### **Solution:**

The sentence obeys the rules of subject-verb agreement making it meaningful overall.

20. Interpret the given table to identify the type of vegetation.

Mean Annual Average Temperature (in °C)	Rainfall (in cm)	Flora	Fauna
Above 24°C	100 - 200 cm	Teak, Sal,	Tiger, Deer,
Above 24 C	100 - 200 cm	Sandalwood	Lizards

- A. Tropical Deciduous Forest
  - Montane Forest
  - Mangrove Forest
  - D. Tropical Evergreen Forest



The given table indicates features of a Tropical Deciduous Forest as such forests receive temperatures above 24°C and rainfall of 100-200 cm in the moist Tropical Deciduous Forest. This kind of vegetation consists of trees like teak and sandalwood. Tigers, deer and lizards are common animals to be found in such areas.

### 21. Choose the correct meaning of the idiom 'go bananas' as used in the following sentence. Tarun did not get the promotion and went bananas.

- To slumber or fall asleep
- Rashi breathed in deeply and calm down
- C. To pacify someone
- **D**. To get excited or angry



## Solution:

The idiom 'go bananas' refers to the condition of becoming very excited or angry. Hence, this option is correct.

### 22. Choose the option that has the correct active and passive voice pairing.

Rashmi will be taking a class test tomorrow. A class test is being taken by Rashmi tomorrow.



Sudha prepared dinner.

The dinner was prepared by Sudha.

Uma threw the ball

The ball was being thrown by Uma.

D.

Ashish messages Ritwik about the match.

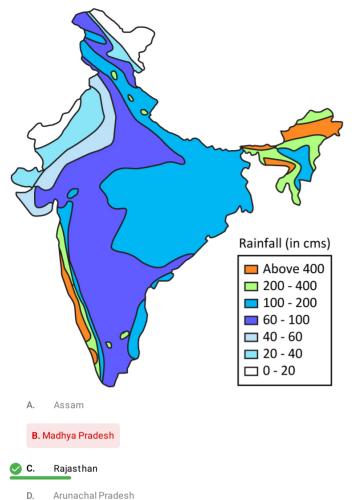
Ritwik will have been messaged about the match by Ashish.



### Solution:

The sentence obeys the passive voice rules and is the correct form of the active sentence.

### 23. Analyse the given map and choose the state receiving the lowest amount of annual rainfall.



The lowest amount of annual rainfall is received by Rajasthan, measuring about 0-20 cm throughout the year.

### 24. In a certain code language, '356' means 'very hot day' and '123' means 'hot filtered coffee'; '589' means 'day and night'. Which digit stands for 'very' in the same code language?

A. 6

B. 3

C. 7

D. 5

### **Solution:**

In the first and second statements, the common code digit is '3' and the common word is 'hot'. So, '3' means 'hot'. In the second and third statements, the common code digit is '5' and the common word is 'day'. So, '5' means 'day'. Thus, in the second statement, '6' means 'very'.

### 25. Read the following passage.

Whenever we think of modern-day bodybuilding, we think of legends such as Arnold Schwarzenegger and Jay Cutler. But there was one person, way before these two, who established bodybuilding as a standardised sport. He was Eugene Sandow. Born on April 2, 1867 in Germany, Eugene Sandow is widely considered the "father of

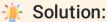
modern-day bodybuilding". Sandow became famous for defeating renowned strongmen across Europe in the 1880s such as Charles Sampson, Frank Bienkowski, and Henry McCann. His 'Dying Gaul' is perhaps one of bodybuilding's most prized photos. Focusing on toning the entire musculature of the human body, Sandow worked hard to ensure that his body was as sculpted as humanly possible.

Sandow was not just known for his work ethic. He was also known for pioneering a comprehensive diet plan to ensure optimal muscle growth. His Institute of Physical Culture opened in 1987 in London. He believed that only by consuming the required quantities of carbohydrates, proteins and minerals could bodybuilders reach their maximum potential. His training philosophy attracted people from a variety of classes; from the poor, and working class to the aristocratic elite. The shining moment of his life would arguably be the 'Great Competition' held at the Royal Albert Hall in 1901 in London. He oversaw thousands of applicants over a period of three years preceding the tournament and evaluated the finalists based on strict parameters. The main event was attended by a record audience of over 15,000 people. The event was a rousing success. Later on, Sandow was further contacted by famous personalities such as Thomas Edison, Sir Arthur Conan Doyle and King George V to offer his insights on maintaining a healthy body.

Today, Sandow is immortalised in the form of the Sandow Statue, presented to the winner of Mr Olympia, a major professional bodybuilding competition funded by the International Federation of Bodybuilders, since 1977.

### Which statement happened first as per the above passage?

- A. Sandow worked hard to sculpt and tone his physique
  - B. Arthur Conan Doyle patronised bodybuilding.
  - C. Sandow opened the Institute of Physical Culture in England.
  - **D.** Bodybuilding gained prominence after Sandow's death.



This incident happened first as per the above passage. Sandow worked hard to make sure that every muscle in his body was toned and his body was sculpted.

### 26. Read the following passage.

Whenever we think of modern-day bodybuilding, we think of legends such as Arnold Schwarzenegger and Jay Cutler. But there was one person, way before these two, who established bodybuilding as a standardised sport. He was Eugene Sandow. Born on April 2, 1867 in Germany, Eugene Sandow is widely considered the "father of modern-day bodybuilding". Sandow became famous for defeating renowned strongmen across Europe in the 1880s such as Charles Sampson, Frank Bienkowski, and Henry McCann. His 'Dying Gaul' is perhaps one of bodybuilding's most prized photos. Focusing on toning the entire musculature of the human body, Sandow worked hard to ensure that his body was as sculpted as humanly possible.

Sandow was not just known for his work ethic. He was also known for pioneering a comprehensive diet plan to ensure optimal muscle growth. His Institute of Physical Culture opened in 1987 in London. He believed that only by consuming the required quantities of carbohydrates, proteins and minerals could bodybuilders reach their maximum potential. His training philosophy attracted people from a variety of classes; from the poor, and working class to the aristocratic elite. The shining moment of his life would arguably be the 'Great Competition' held at the Royal Albert Hall in 1901 in London. He oversaw thousands of applicants over a period of three years preceding the tournament and evaluated the finalists based on strict parameters. The main event was attended by a record audience of over 15,000 people. The event was a rousing success. Later on, Sandow was further contacted by famous personalities such as Thomas Edison, Sir Arthur Conan Doyle and King George V to offer his insights on maintaining a healthy body.

Today, Sandow is immortalised in the form of the Sandow Statue, presented to the winner of Mr Olympia, a major professional bodybuilding competition funded by the International Federation of Bodybuilders, since 1977.

### Which statement is true based on the above passage?

A. Sandow was not a scientific bodybuilder.

- Strongmen were not expert bodybuilders.
- **C**. The sport of bodybuilding received standardisation only in 1901.
  - D. Arnold Schwarzenegger was the first pioneer of bodybuilding.



### Solution:

Thanks to Eugen Sandow's fame as a reputed bodybuilder, he came up with the world's first competition to rank the best bodybuilders in 1901.

### 27. Read the following passage.

Whenever we think of modern-day bodybuilding, we think of legends such as Arnold Schwarzenegger and Jay Cutler. But there was one person, way before these two, who established bodybuilding as a standardised sport. He was Eugene Sandow. Born on April 2, 1867 in Germany, Eugene Sandow is widely considered the "father of modern-day bodybuilding". Sandow became famous for defeating renowned strongmen across Europe in the 1880s such as Charles Sampson, Frank Bienkowski, and Henry McCann. His 'Dying Gaul' is perhaps one of bodybuilding's most prized photos. Focusing on toning the entire musculature of the human body, Sandow worked hard to ensure that his body was as sculpted as humanly possible.

Sandow was not just known for his work ethic. He was also known for pioneering a comprehensive diet plan to ensure optimal muscle growth. His Institute of Physical Culture opened in 1987 in London. He believed that only by consuming the required quantities of carbohydrates, proteins and minerals could bodybuilders reach their maximum potential. His training philosophy attracted people from a variety of classes; from the poor, and working class to the aristocratic elite. The shining moment of his life would arguably be the 'Great Competition' held at the Royal Albert Hall in 1901 in London. He oversaw thousands of applicants over a period of three years preceding the tournament and evaluated the finalists based on strict parameters. The main event was attended by a record audience of over 15,000 people. The event was a rousing success. Later on, Sandow was further contacted by famous personalities such as Thomas Edison, Sir Arthur Conan Doyle and King George V to offer his insights on maintaining a healthy body.

Today, Sandow is immortalised in the form of the Sandow Statue, presented to the winner of Mr Olympia, a major professional bodybuilding competition funded by the International Federation of Bodybuilders, since 1977.

### Which statement can be inferred from the above passage?

- The 'Great Competition' was a rushed affair.
- B. Bodybuilding did not receive public backing.
- C. Bodybuilding requires a standardised training regime.

**D.** Only men could aspire to be bodybuilders.



### Solution:

Sandow became a legend in the bodybuilding world because he adhered to a set training regime that was both scientific and achievable.

### 28. Select the correct antonym of

### **Dismayed**

A. Ecstatic

> В. Perturbed

Traumatised C.

D. Shattered

### Solution:

'Ecstatic' is a suitable antonym for 'dismayed'. The meaning of the word 'ecstatic' is 'feeling or expressing overwhelming happiness or joyful excitement.' Whereas, the meaning of the word 'dismayed' is 'to cause (someone) to feel concern and distress.'

### 29. How is food security of a country or a state affected by natural calamities?

- Α. Scarcity of medication facilities
- Degradation of industrial areas В.
- Shortage of food grains **C**.

D. Reduction in job opportunities



### **Solution:**

During a natural calamity like drought, tsunamis, etc., a country experiences crop failure and lose a lot of its food produce which eventually affects the stock of food grains which sometimes lead to starvation among the people of the affected country.

### 30. Which of the following is not a measure taken by the government to alleviate poverty?

- Mahatma Gandhi National Rural Employment Guarantee Act, 2005
- B. National River Conservation Plan (NRCP), 1995
  - C. Rural Employment Generation Programme (REGP), 1995
  - Pradhan Mantri Gramodaya Yojana (PMGY), 2000 D.



### **Solution:**

The National River Conservation Plan of 1995 aims at conserving all the rivers of India to improve the quality of river water and slow down its pollution level.

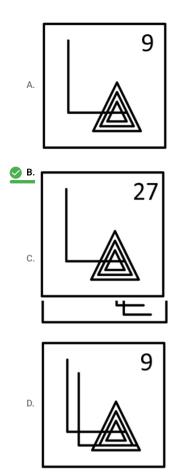
### 31. Which one of the options will replace the question mark?













### Rule:-

The two art elements interchange their positions, and the numeric on the right is the cube of the previous number.

So in the next image, L shape will be at the top and 3 triangles (one inside the other) will be at lower position.

Similarly we get cube of number 3, which is 27.

### 32. Analyse the given list of features of a country and mention its form of government.

Free and fair elections One person, one vote Equal rights for all Several different political parties



### B. Monarchy

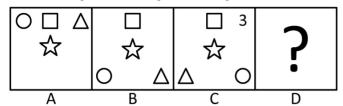
- Communism
- Dictatorship

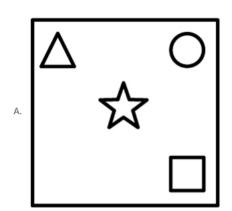


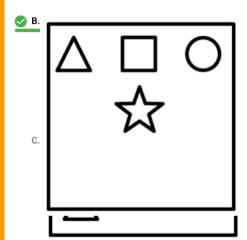
# Solution:

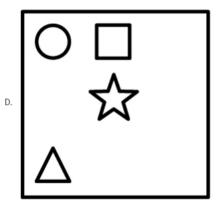
The given features indicate a democratic form of government where elections are conducted in free and fair form and each vote is valued. There are several political parties and people of the country elect the ruling party. Each and every citizen is also given equal rights.

### 33. Which option will replace the question mark?









### **Solution:**

The triangle is moving in clockwise direction.

The circle is moving in anticlockwise direction.

The position of square is the same in every step of the sequence.

The position of star is the same; however its size is getting bigger in each step.

So at the next position, the star will be at centre with bigger size and the square will remain at the same position. The circle will be at the right side of the square and the triangle will be at the left side of the square.

### 34. Which sentence shows the correct meaning of the word 'tempestuous' as used in the given sentence?

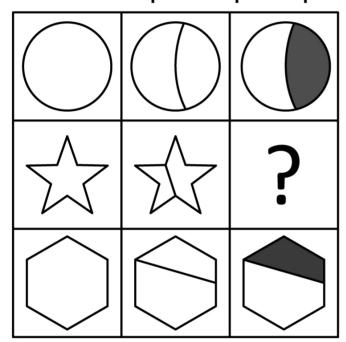
The couple resolved their disputes after a long period of <u>tempestuous</u> relationship.

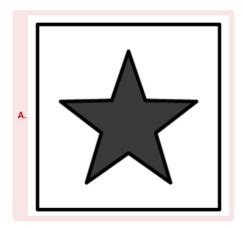
- Characterized by strong loyalty to one's friend
- **B**. Characterized by distraught and turbulence
  - C. Characterized by amicably
  - Characterized by unflappable calmness

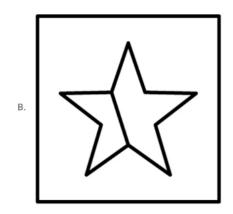
# Solution:

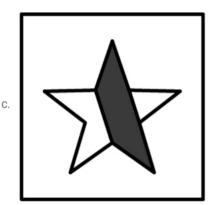
The word 'tempestuous' as used for the noun 'relationship' refers to turbulence, stormy state.

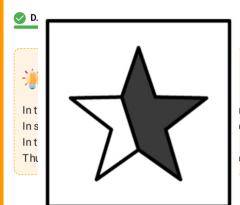
### 35. Which one of the options will replace the question mark?











re is complete and unshaded.
earts.
the other is light like shown in the key.

### 36. Match the provisions with the correct fundamental rights.

Provisions	Fundamental Rights
Access to any kind of public place	Right to freedom
One is free to express his/her opinions	Right to constitutional remedies
Protection of one's fundamental rights	Right to equality

	Provisions	Fundamental Rights
	Access to any kind of public place	Right to freedom
A.	One is free to express his/her opinions	Right to constitutional remedies
	Protection of one's fundamental rights	Right to equality

	Provisions	Fundamental Rights
	Access to any kind of public place	Right to equality
B.	One is free to express his/her opinions	Right to constitutional remedies
	Protection of one's fundamental rights	Right to freedom

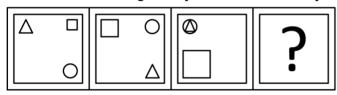
	Provisions	Fundamental Rights
	Access to any kind of public place	Right to constitutional remedies
C.	One is free to express his/her opinions	Right to freedom
	Protection of one's fundamental rights	Right to equality

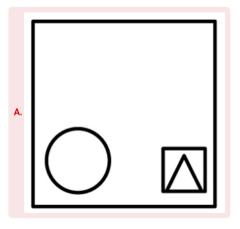
D.	Provisions	Fundamental Rights
	Access to any kind of public place	Right to equality
-	One is free to express his/her opinions	Right to freedom
The free	Protection of one's fundamental rights	Right to constitutional remedies

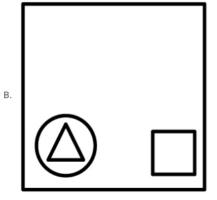
The Protection of one's free fundamental rights he or sne reers that his or ne rundamental rights are being hampered by any condition.

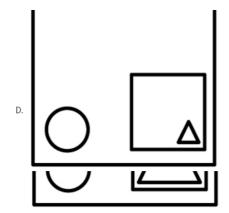
The Protection of one's fundamental rights remedies is a citizen access to any public place, the right to freedom gives a citizen the right to constitutional remedies gives a citizen the full power to call out the court if hampered by any condition.

### 37. Choose from the given options, which will replace the question mark?











The circle moves one step in anticlockwise direction however the triangle moves two steps in anticlockwise direction. The square moves one step in clockwise direction but with each step its size gets bigger. So at the next step, the square and the triangle will be at the same position (triangle inside the sqaure) and circle is one step behind them.

### 38. Which city led the February Revolution that brought down the monarchy of Russia in February 1917?

- Alexandrovsky
- Petrograd

C. Polyarny

Svobodny



### Solution:

Petrograd, the then capital of Russia led the February Revolution that brought down the monarchy of Russia in February 1917.

### 39. Why did Nazism rise to power in Germany in the early 1930s?

- Nazism believed in freedom and equality among all
- B. People were forced to elect the Nazi Party
- **C**. Nazi propaganda stirred hopes of people after the Great Depression
  - Nazism offered free public services to any people from any community



### Solution:

Hitler was a great speaker whose powerful propaganda reached the hearts and minds of the people of Germany. He and his party promised every people of Germany justice and dignity which moved the Germans.

### 40. Identify the pattern and the missing number in the given image?

9 <sub>B</sub>	6 <sub>C</sub>	5 <sub>B</sub>
3 <sub>C</sub>	8 <sub>B</sub>	19 <sub>A</sub>
13 <sub>A</sub>	17 <sub>A</sub>	?

- **A**. 19C
- **B**. 17C
  - **C**. 16C
  - D. 18C

### **\*\*** Solution:

Each letter [A, B and C] must appear once in each column and if we see diagonally the third number is the sum of the first and second numbers [like 5+8=13].

So the missing character will be 9+8=17 and the letter which does not appear in the column is C. Hence the character will be 17C.

### 41. What is the product of $\frac{2}{2-5} \times 45$ ?

- A.  $\frac{1}{6}$ 25 + 5
- **B**.  $-\frac{1}{6}$ 25 + 5
- $\bigcirc$  C. -301 +  $\frac{2}{5}$ 
  - D.  $301 + \frac{2}{5}$

## **Solution:**

We have,  $\frac{2}{2-5} \times 45 = \frac{2}{2-5} \times 35 = \frac{2 \times 35}{2-5}$  Rationalise the denominator, we  $get_{\frac{65}{2-5}} \times \frac{2+5}{2+5} = \frac{[652+5]}{4-5} = \frac{[652+5]}{-1} = -(65(2+5)) = -(125+6)$ 

# 42. Which of the following tables correctly classifies polynomials as linear, quadratic and cubic polynomials?

	Linear Polynomials	$x, x^2, y^3$
A.	Quadratic Polynomials	$p^2 + 4$ , $y + 5$
	Cubic Polynomials	$z^3 + 4z$ , $t^3 + 2t + 5$

<b>P</b> D		77
<b>⊘</b> B.	Linear Polynomials	$x, t + 2^2, y + 5$
	Quadratic Polynomials	$x^2$ , $p^2 + 4$ , $3r^2 + 2r + 5$
	Cubic	$v^3 z^3 + 4z$

Į	Polynomials	t° + 2t + 5
	Polynomials	$x, t + 2^2, y + 5$
C.	Quadratic Polynomials	$x^2$ , $p^2 + 4$ , $z^3 + 4z$
	Cubic Polynomials	$y^3$ , $t^3 + 2t + 5$ , $3r^2 + 2r + 5$

	Linear Polynomials	x, y + 5
Э.	Quadratic Polynomials	$t + 2^2, x^2, p^2 + 4,$ $3r^2 + 2r + 5$
	Cubic Polynomials	$y^3$ , $z^3 + 4z$ , $t^3 + 2t + 5$

We know,

A polynomial of degree one is called a linear polynomial.

A polynomial of degree two is called a quadratic polynomial.

A polynomial of degree three is called a cubic polynomial.

Hence, the below table classifies polynomials as linear and quadratic.

Linear Polynomials	$x, t + 2^2, y + 5$
Quadratic Polynomials	$x^2$ , $p^2 + 4$ , $3r^2 + 2r + 5$
Cubic Polynomials	$y^3$ , $z^3 + 4z$ , $t^3 + 2t + 5$

### 43. Identify the mid-point theorem.

- The line segment joining the mid-points of any two sides of a triangle is parallel to the third side and is half of it A.
  - The line segment joining the mid-points of any two sides of a triangle is perpendicular to the third side and is double of it В.
  - The line segment joining the mid-points of any two sides of a triangle is parallel to the third side and is double of it
  - D. The line segment joining the mid-points of any two sides of a triangle is perpendicular to the third side and is half of it

### Solution:

We know that mid-point states that "the line segment joining the mid-points of any two sides of a triangle is parallel to the third side and is half of it."

### 44. In which quadrant point A(3,-4) lie?

quadrant st

quadrant

C. 3rd quadrant

th quadrant



We know that the positive x-axis and the negative y-axis enclose the 4th quadrant.

So, If a point is in the 4th quadrant, then the point will be in the form (+, -).

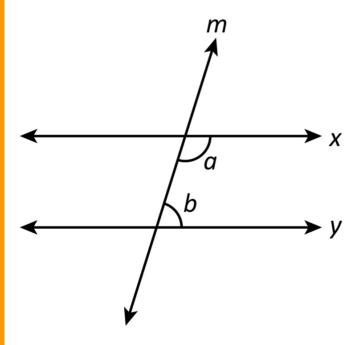
Here, point A(3, -4) is in the form (+, -).

Hence, A(3, -4) lies in the 4th quadrant.

### 45. Which option completes the sentence given below?

A line m intersects two lines x and y.

Given that lines x and y do not intersect each other, the sum of interior angles  $\angle a + \angle b = \underline{\hspace{1cm}}$ .



90°

180° **B**.

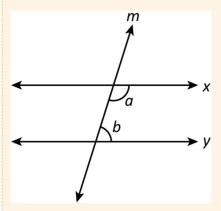
360°

**D**. 270°

### Solution:

According to Euclid's fifth postulate, "If a straight line falling on two straight lines makes the interior angles on the same side of it taken together less than two right angles, then the two straight lines, if produced indefinitely, meet on that side on which the sum of angles is less than two right angles".

Euclid's fifth postulate can also be written as, "no intersection of lines will take place when the sum of the measures of the interior angles on the same side of the falling line is exactly 180°".



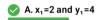
Given that lines

x and y do not intersect, the sum of interior angles on the same side of the line m must be equal to 180°.

So, the sum of interior angles ∠a+∠b=180°.

### 46.

What is the value of  $x_1$  and  $y_2$ , if the line 3x+4y=22 passes through the point  $P(x_1, y_2)$ , and  $y_3$  is twice of  $x_4$ ?



- B.  $x_1 = -4.4$  and  $y_1 = -8.8$
- C.  $x_1 = -22$  and  $y_1 = -11$

**D.**  $x_1$ =4.4 and  $y_1$ =2.2

### **Solution:**

The given equation is: 3x+4y=22

Line 3x+4y=22 passes through the point  $P(x_1, y_1)$ .

Thus,  $x=x_1$ , and  $y=y_1$  satisfy the equation 3x+4y=22.

 $\Rightarrow$  3x<sub>1</sub>+4y<sub>1</sub>=22

Given that  $y_1$  is twice of  $x_1$ .

Therefore, put the value of  $y_1=2x_1$  in  $3x_1+4y_1=22$ 

 $3x1+4(2x_1)=22$ 

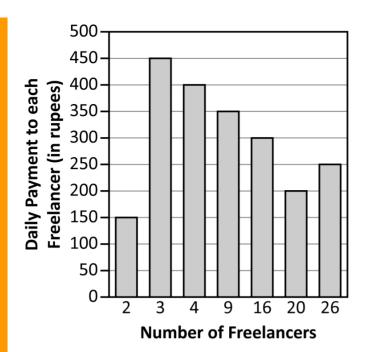
- $\Rightarrow$  11x<sub>1</sub>=22
- $\Rightarrow x_1=2$

Put value of x1=2 in  $y_1=2x_1$ .

 $y_1 = 2(2) = 4$ 

Hence, the value of  $x_1=2$  and  $y_1=4$ .

47. Consider the bar graph below, which shows the number of people who get paid daily by a corporation for their freelancing work. What is the total daily payment paid to freelancers receiving less than or equal to Rs. 200?



A. Rs.300

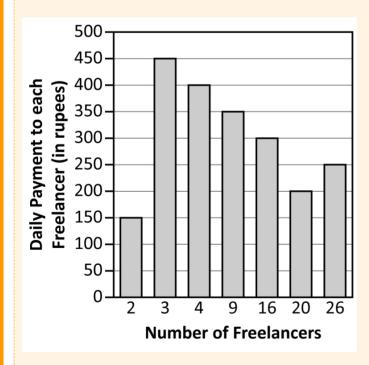
**B.** Rs. 350

**C.** Rs. 4300

D. Rs. 4000

### Solution:

Observe the below-bar graph.



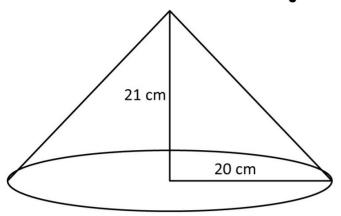
Number of freelancers whose daily payment is Rs. 150 = 2

Number of freelancers whose daily payment is Rs. 200 = 20

The total daily payment made to the freelancers whose daily payment is less than or equal to 200 =

2×150+20×200=Rs. 4300

### 48. What is the curved surface area of the right circular cone shown below?



- 1257.14 c m <sup>2</sup>
- 3080 c m
- **C**. 1822.86 c m

**D**. 8800 cm<sup>2</sup>



### Solution:

The slant height of cone =  $(radius)^2 + (height)^2$  The slant height of cone =  $(20)^2 + (21)^2 = 841 = 29$  cm In the given right circular cone,

The radius of the cone (r) = 20 cm

Height of cone (h) = 21 cm

We know that the curved surface area of the right circular cone =  $\pi rl$ .

The slant height of cone =  $(radius)^2 + (height)^2$  The slant height of cone =  $20^2 + 21^2 = 841 = 29$  cm

The curved surface area of the right circular cone =  $\pi rl = \frac{22}{7} \times 20 \times 29 = 1822.86$  cm<sup>2</sup>.

Hence, the curved surface area of the given right circular cone is 1822.86 cm<sup>2</sup>.

### 49. Which of these is the $\frac{p}{q}$ form of 0.36?







### Solution:

We know that every number with a non-terminating recurring decimal expansion can be expressed in the form  $\frac{p}{q}$ , (q $\neq$ 0), where p and q are integers.

Let x=0.36(1)

Over here, we note that block 36 is repeating. Since two digits are repeating, we multiply x by 100.

100x=36.363636... (2)

Subtract equation (1) from (2), and we get

99x=36

 $\Rightarrow$  **x**= $\frac{36}{99} = \frac{4}{11}$ 

Therefore,  $\frac{p}{q}$  form of 0.36 is  $\frac{4}{11}$ .

### 50. What is the mode of the data if the mean and median of the data are 20 and 25, respectively?

**A.** 10

55

C. 115





### **Solution:**

There is an empirical relationship between the three measures of central tendency:

3 median=mode+2 mean

Given the mean and median of the data are 20 and 25.

Thus,

3 median=mode+2 mean

- ⇒mode=3 median-2 mean
- ⇒ mode=3×25-2×20=35

Hence, the mode of the data is 35.

Thank you for attempting the Assessment. Best wishes for the final Score!