

DAV PUBLIC SCHOOL,

PATLIPUTRA COLONY, PATNA-13

DIWALI AND CHATHA PUJA HOLIDAY

HOMework

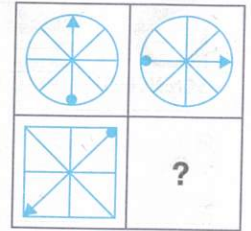
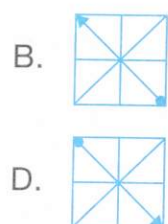
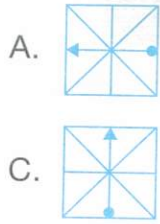


SUBJECT-SCIENCE & MATHS

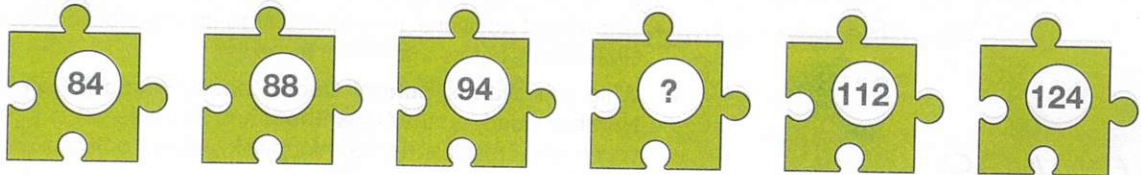
CLASS-III

LOGICAL REASONING

1 Which of the following figures will replace the question mark (?) in the given figure matrix?



2 Find the missing number in the given number pattern.



- A. 100 B. 104 C. 106 D. 102

3 Nikhil started his high jump practice from second Monday of November 20XX. For how many days did he practice high jump in that month, if he took rest on every Sunday?

- A. 17
B. 15
C. 19
D. 16

| NOVEMBER 20XX | | | | | | |
|---------------|-----|-----|-----|-----|-----|-----|
| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | |

4 Select the combination of numbers from the options in which the given letters are arranged accordingly to form a meaningful English word.

N R K D I
1 2 3 4 5

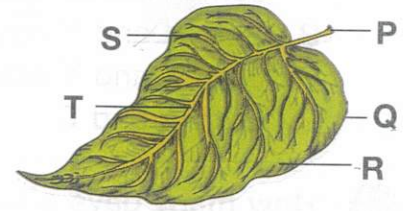
- A. 3, 5, 1, 4, 2 B. 4, 2, 1, 5, 3 C. 3, 4, 2, 5, 1 D. 4, 2, 5, 1, 3

5 If 7 is related to 11 in some way, then in the same way 4 is related to _____.

- A. 9 B. 7
C. 8 D. 3

6 Refer to the given figure and select the option that correctly identifies any three among the labelled parts P-T.

- A. P - Margin, R - Lamina, T - Stalk
- B. Q - Margin, R - Leaf blade, S - Side vein
- C. P - Main vein, Q - Leaf blade, S - Margin
- D. Q - Side vein, R - Margin, T - Stalk



7 Select the odd one out on the basis of type of root.

- A. Wheat
- B. Mustard
- C. Bean
- D. Hibiscus

8 The nest shown in the given picture belongs to _____.

- A. Flamingo
- B. Eagle
- C. Tailor bird
- D. Weaver bird

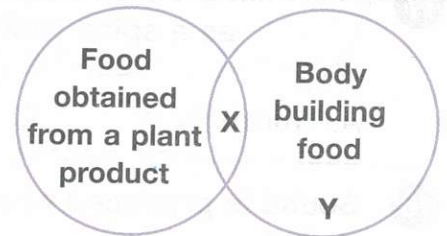


I am a farm animal. You get meat and egg from me that you eat as food. Who am I?

- A. Hen
- B. Sheep
- C. Goat
- D. Both A and C

10 Refer to the given Venn diagram and select the option that correctly identifies X and Y.

- | | |
|------------|-------------|
| X | Y |
| A. Chapati | Honey |
| B. Bread | Almond milk |
| C. Tofu | Paneer |
| D. Butter | Curd |



11 Unscramble the given letters and select the option that gives the name of a fibre that is obtained from the fruit of a plant.

- A. NAROY
- B. TNOTCO
- C. RLCCAYI
- D. EILNN

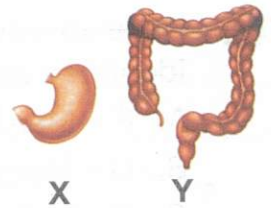
12 Study the given relationship and select the option that correctly identifies X.

Ghagra-Choli : Gujarat :: Mekhela Chador : X

- A. West Bengal
- B. Assam
- C. Bihar
- D. Odisha

- 13 Identify organs X and Y shown in the given figures and select the correct statement regarding them.

- A. Undigested food from X goes directly into Y where it stays for some time before passing out through anus.
 B. Both X and Y play a role in mastication of food.
 C. Both X and Y are important organs of the digestive system.
 D. Both A and C



- 14 How many days after a New Moon do we see a Full Moon?

- A. 7 days B. 14 days C. 28 days D. 365 days

- 15 Starting from the first letter, strike out every alternate letter to obtain the name of an item.

T J P U L I D C I E S

Now, select the option that has the same state of matter as the item given in the box.

- A. Oil B. Snow C. Pumpkin D. Chalk

- 16 Select the correct match.

- A. Glass - Definite shape and easily compressible
 B. Book - Definite volume and opaque
 C. Lemonade - No definite volume and transparent
 D. Hydrogen - Non-compressible and sinks in water

- 17 I am a seed and your mother uses me as a spice while cooking food. Who am I?

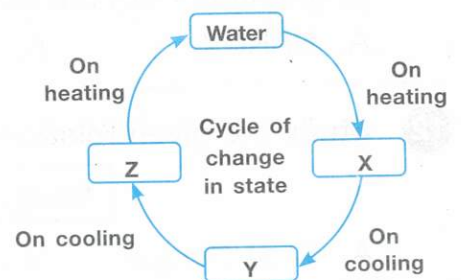
- A. Turmeric B. Cumin C. Clove D. Cinnamon

- 18 Sound is produced when an object moves back and forth very fast. This movement is called _____.

- A. Echo B. Vibration C. Chirping D. Gravity

- 19 The given figure shows a cycle of change in state of water. What are X, Y and Z?

- | | X | Y | Z |
|----|-------|-------|-------|
| A. | Water | Ice | Steam |
| B. | Ice | Steam | Water |
| C. | Steam | Ice | Water |
| D. | Steam | Water | Ice |



- 20 Ruchi's father is a farmer. Which of the following will help her father to plough the field?



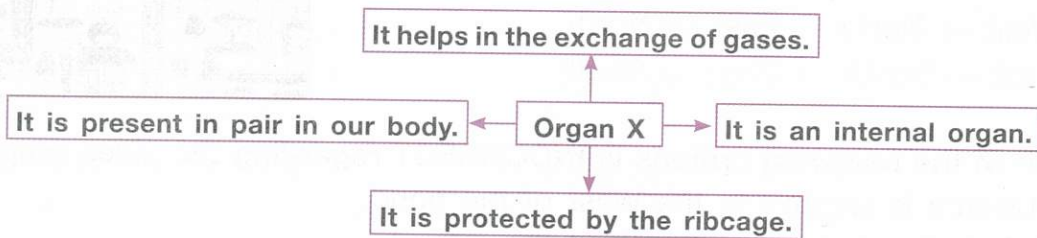
- 21 Select the **INCORRECT** statement.

- A. Force can change the direction of a moving object.
- B. Force can change the speed of a moving object.
- C. Frictional force helps us to walk.
- D. Magnetic force applies only pulling force.

- 22 Which of the following types of foot belongs to an eagle?



- 23 Read the given characteristics of organ X and select the option that correctly identifies it.



- A. Heart
- B. Kidney
- C. Ear
- D. Lung

- 24 Which of the following is **NOT** a healthy eating habit?

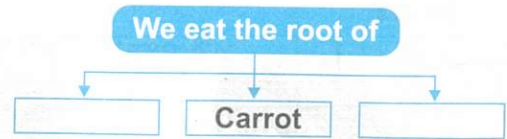
- A. Always eat and drink in clean plates and glasses respectively.
- B. Eat your meals on time every day.
- C. Skip breakfast and lunch if you had dinner last night.
- D. Never waste food.

- 25 Starting from the first letter, strike out every alternate letter and select the option that correctly gives the name of a natural fibre obtained from a herbivorous farm animal.

- A. BPPOCLDYNEISKTLERSRC
- B. ALQIRNPETNS
- C. DJOUITBEE
- D. MWCOBOILD

26 Select the correct option to fill the empty boxes of the given flow chart.

- A. Potato and Onion
- B. Sugarcane and Ginger
- C. Turnip and Spinach
- D. Sweet potato and Turnip



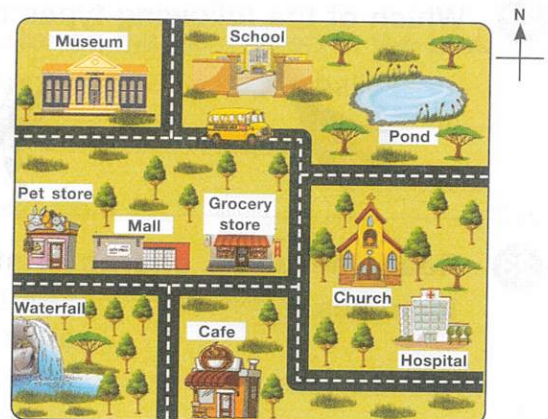
27 Which of the following first aid can be given to a person who has cut and wound?

- A. Clean the injured area with an antiseptic liquid.
- B. If the injury is deep, tie a bandage on it.
- C. Pour boiling hot water on the injured part.
- D. Both A and B

Direction (Q. No. 28 and 29) : Refer to the given map of a locality and answer the following questions.

28 Niharika's school has decided to take all the Class 3 students for a picnic from school to the waterfall. Which path will the school bus most likely follow?

- A. East → South → East → North
- B. East → South → East → South
- C. West → North → East → North
- D. East → South → West → South



29 Which of the following options is INCORRECT regarding the given map?

- A. Museum is located to the West of the pond.
- B. Cafe is located to the South of the school.
- C. Hospital is located to the South-East of the grocery store.
- D. Pet store is located to the North-East of the cafe.

30 Select the option that correctly fills the given blanks.

(i) is a water body that always contains freshwater and (ii) is a landform which is surrounded by water on all sides.

- | (i) | (ii) |
|----------|---------|
| A. Pond | Desert |
| B. River | Island |
| C. Lake | Forest |
| D. Sea | Plateau |

ACHIEVERS SECTION

31 Which of the following **CANNOT** be found in the given word grid?

- Thin roots arising from lower part of the stem of sugarcane plant to support it
- A type of root system found in pea plant
- The colourful part of a flower that attracts insects
- Plant part from which a new banana plant grows

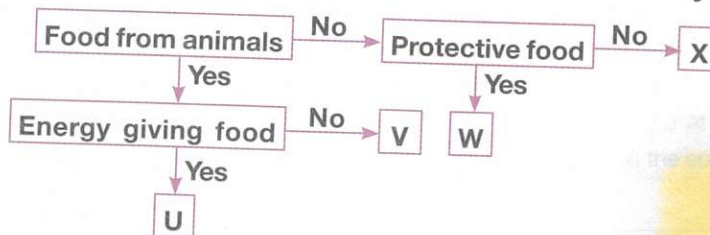
| | | | | | | |
|---|---|---|---|---|---|---|
| C | A | G | S | F | C | B |
| B | P | E | T | A | L | Q |
| Z | O | N | I | J | E | X |
| A | Y | D | L | K | J | G |
| M | P | L | T | I | D | K |
| T | A | P | R | O | O | T |
| M | E | H | O | S | I | R |
| V | N | T | O | P | L | G |
| O | Q | F | T | W | H | V |
| J | B | D | S | M | X | F |

32 Refer to the given table and select the option that correctly identifies birds X, Y and Z.

| Characteristic | Bird | | |
|------------------------|------|---|---|
| | X | Y | Z |
| Has chisel-shaped beak | ✓ | ✓ | x |
| Has climbing feet | x | ✓ | x |
| Nests in tree holes | ✓ | ✓ | x |

- | X | Y | Z |
|---------------|------------|----------|
| A. Parrot | Woodpecker | Owl |
| B. Hoopoe | Woodpecker | Flamingo |
| C. Penguin | Hoopoe | Eagle |
| D. Woodpecker | Sunbird | Flamingo |

33 Refer to the given flow chart and select the option that correctly identifies U, V, W and X.



- | U | V | W | X |
|------------|-------------|---------------|-------------|
| A. Butter | Tofu | Cod-liver oil | Wheat |
| B. Cocoa | Almond milk | Paneer | Palm oil |
| C. Ghee | Cheese | Papaya | Rice |
| D. Soybean | Curd | Pulses | Mustard oil |

LOGICAL REASONING

1 The given clocks show the time at which Reena went to play and came back home. For how much time did she play?

- A. 1 hour 30 minutes
- B. 2 hours 15 minutes
- C. 2 hours 30 minutes
- D. 1 hour 45 minutes



Reena went to play







Reena came back home

2 Which of the following words CANNOT be formed from the letters of the given word?

IMMEDIATE

- A. ADMIT
- B. MELT
- C. MEDIA
- D. MADE

3 Which of the following objects has 2 circular faces and 1 rectangular face?

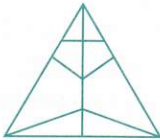
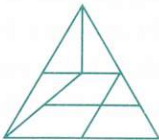

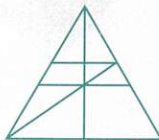
- A. 
- B. 
- C. 
- D. 

4 Find the missing number, if same rule is followed in all the three figures.



- A. 9
- B. 8
- C. 7
- D. 11

5 In which of the following options, the given figure is exactly embedded as one of its parts?

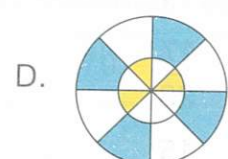
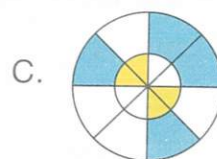
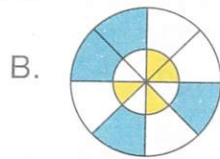
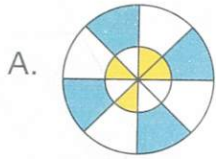
- A. 
- B. 
- C. 
- D. 

6 If all vowels are removed from the given arrangement, then _____ is fourth from the left end.

PALMESGUYITK (Right)

- A. M
- B. S
- C. G
- D. Y

7 Select the odd one out.



8 Select the CORRECT mirror image of the given figure.



9 If 'Earth' means 'Cloud', 'Cloud' means 'Sun' and 'Sun' means 'Moon', then _____ gives us rain.

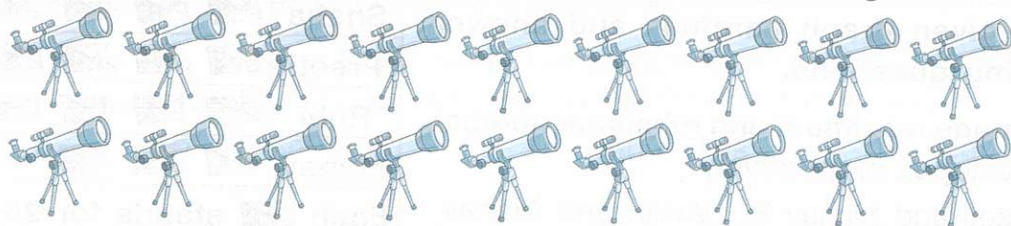
A. Cloud

B. Moon

C. Sun

D. Earth

10 How many groups of 6 telescopes each can be formed from the given telescopes?



A. 3

B. 5

C. 4

D. 2

MATHEMATICAL REASONING

11 Compare and fill the box using $>$, $<$ or $=$.

Place value of digit 4 in 9482



Place value of digit at thousands place in 90574

A. =

B. $>$

C. $<$

D. Can't be determined

12 If  =  +  +  and  = 2 litres, then what is the capacity of bucket?

A. 2 litres

B. 3 litres

C. 6 litres

D. 4 litres

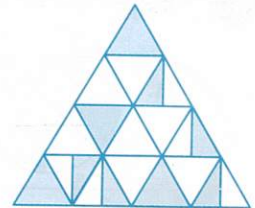
13 The unshaded fraction of the given figure is _____.

A. $\frac{17}{28}$

B. $\frac{13}{32}$

C. $\frac{15}{28}$

D. $\frac{19}{32}$



14 Which of the following sets has equal amount of money?

A. P and Q only

B. Q and R only

C. P and R only

D. Can't be determined



DIRECTIONS (15-16) : The given pictograph shows the number of envelopes made by a group of 5 friends during summer vacations. Study the given graph carefully and answer the following questions.

| Names | Number of envelopes made |
|--------|--------------------------|
| Varun | |
| Sneha | |
| Preeti | |
| Ruhi | |
| Manav | |

Each stands for 25 envelopes.

15 Who made maximum and minimum number of envelopes respectively?

A. Preeti and Manav B. Varun and Manav

C. Ruhi and Preeti D. Manav and Varun

16 Find the total cost of all the envelopes made, if the cost of 1 envelope is ₹ 5.

A. ₹ 3125

B. ₹ 375

C. ₹ 750

D. ₹ 2150

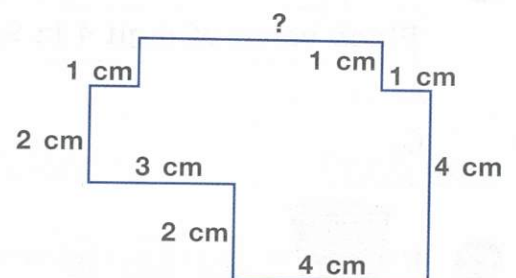
17 Find the missing value in the given figure (not drawn to scale), if the total length of the boundary of the figure is 24 cm.

A. 5 cm

B. 4 cm

C. 6 cm

D. 7 cm



- 18 If X is the remainder obtained on dividing 560 by 8 and Y is the sum of 520 and 8, then the value of $X \times Y$ is _____.
- A. 780 B. 1540 C. 0 D. 670

- 19 The difference between the heights of Kartik and Smriti is _____.
- A. 20 cm
B. 10 cm
C. 40 cm
D. 30 cm

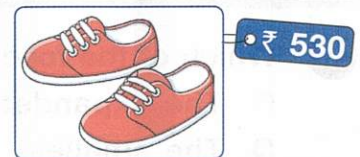


- 20 $48 \div \text{😊} = \text{😞}$. If 😊 is an even number and 😞 is also an even number, then what could not be these two numbers?
- A. 😊 = 2, 😞 = 24 B. 😊 = 3, 😞 = 16
C. 😊 = 4, 😞 = 12 D. 😊 = 6, 😞 = 8

EVERYDAY MATHEMATICS

- 21 There are 20 flats in a society. If the water consumption of each flat is 125 litres per day, then how much total water is consumed by all the flats in a day?
- A. 2000 litres B. 1250 litres C. 2500 litres D. 2250 litres
- 22 Rohit walked around a square shaped garden of side 45 m. How much total distance did he cover in all?
- A. 135 m B. 180 m C. 220 m D. 250 m
- 23 Priyanka bought 125 chocolates. If she distributes the chocolates among her 15 students equally, then how many chocolates will be left with her?
- A. 10 B. 8 C. 6 D. 5

- 24 Navya has ₹ 225 in her wallet. She wants to buy the given pair of shoes. How much more money does she need to buy the given pair of shoes?
- A. ₹ 225 B. ₹ 205
C. ₹ 305 D. ₹ 175



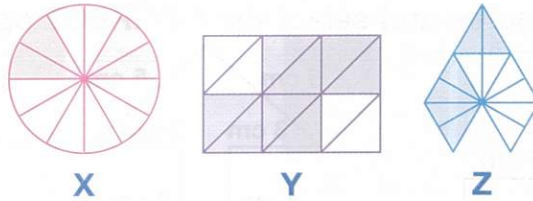
SPACE FOR ROUGH WORK

- 25 Mrs Sharma wrote a 4-digit number on the blackboard. Three students Anshu, Vishal and Badal said the following statements about that number.
 Anshu : "It is a 4-digit number but not the least."
 Vishal : "It is less than the largest 4-digit number but greater than 9997."
 Badal : "Its hundreds place digit is 9."
 If all of the three students said the truth, then find the number.
 A. 9967 B. 9998 C. 9876 D. Can't say
-
- 26 There are 1800 books placed in a library. Out of which 250 are Hindi story books, 530 are literature books and rest are English story books. How many total English story books are there in the library?
 A. 920 B. 530 C. 1020 D. 1000
-
- 27 Vishal saved ₹ 250 each month in first six months of a year and saved ₹ 200 each month in last six months of the same year. How much total amount did he save in the whole year?
 A. ₹ 2800 B. ₹ 2500 C. ₹ 3200 D. ₹ 2700
-
- 28 The temperature of a certain place in the morning was 27°C. If the temperature got decreased by 11°C in the night, then what was the temperature of that place at night?
 A. 16°C B. 15°C C. 12°C D. 13°C
-
- 29 Diya weighs 54 kg 435 g and Kavya weighs 52 kg 412 g. Who weighs more and by how much?
 A. Kavya, 2 kg 230 g B. Kavya, 2 kg 23 g
 C. Diya, 2 kg 230 g D. Diya, 2 kg 23 g
-
- 30 Kirti bought 50 candies. She gave 10 candies to her sister and 15 candies to her brother. What fraction of total candies are left with her?
 A. $\frac{12}{50}$ B. $\frac{25}{50}$ C. $\frac{30}{50}$ D. $\frac{20}{50}$

ACHIEVERS SECTION

- 31 Which of the following statements is CORRECT?
 P. The expanded form of largest four digit number is $9000 + 900 + 90 + 9$.
 Q. The smallest four digit number that can be formed by using the digits 3, 0, 9 and 5 (using each digit only once) is 3059.
 R. The place value of digit 2 in 7241 is 3 times the place value of digit 4 in 7241.
 A. P and Q only B. Q and R only C. P and R only D. P, Q and R

32 Observe the given figures carefully and fill in the blanks.



(p) The sum of shaded fraction of figure X and unshaded fraction of figure Z is _____.

(q) The number of more parts that should be unshaded in figure Z to make the shaded fraction as $\frac{3}{12}$, is _____.

(r) Figure _____ has maximum shaded fraction.

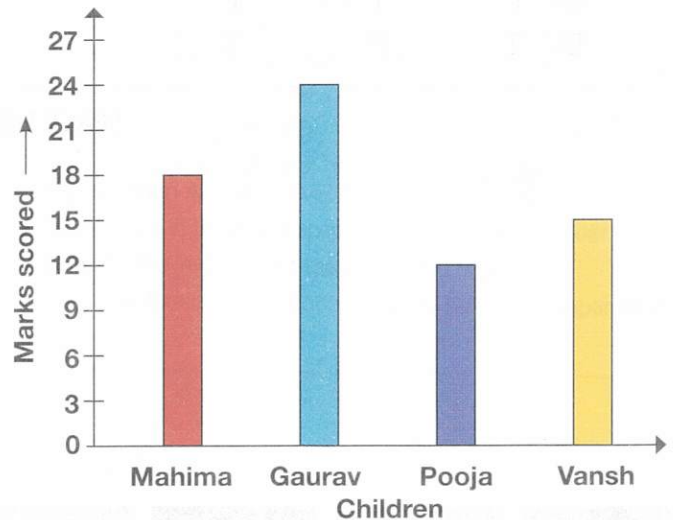
| | (p) | (q) | (r) |
|----|-----------------|-----|-----|
| A. | $\frac{11}{12}$ | 2 | X |
| B. | $\frac{6}{12}$ | 3 | Y |
| C. | $\frac{10}{12}$ | 2 | Y |
| D. | $\frac{10}{12}$ | 3 | Y |

33 The given bar graph shows the marks scored by four friends in weekly Maths test. Study the graph carefully and answer the following questions.

(p) How many more marks were scored by Gaurav than Vansh?

(q) Find the fraction of marks obtained by Mahima and Pooja together to the marks obtained by the four friends altogether.

| | (p) | (q) |
|----|-----|-----------------|
| A. | 9 | $\frac{30}{69}$ |
| B. | 3 | $\frac{10}{63}$ |
| C. | 9 | $\frac{10}{69}$ |
| | | 30 |



❖ Do one page English and Hindi writing (date wise) in the same page.

Note- All the works should be arranged in stick file.

DAY PUBLIC SCHOOL,

PATLIPUTRA COLONY, PATNA 13

DIWALI AND CHATHA PUJA HOLIDAY

HOMEWORK



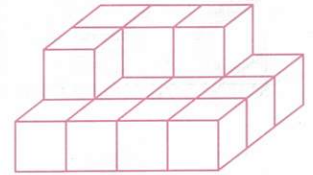
SUBJECT-SCIENCE & MATHS

CLASS-IV

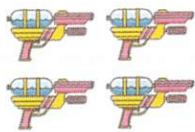
LOGICAL REASONING

1 How many unit cubes are there in the given figure?

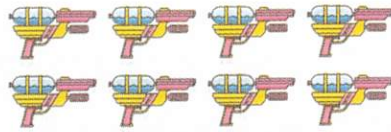
- A. 14
- B. 17
- C. 15
- D. 16



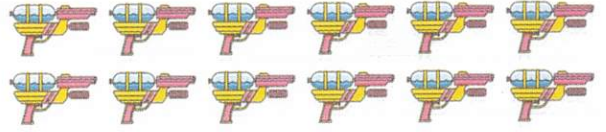
2 Study the given patterns carefully. What will be the number of water guns in Pattern 6?



Pattern 1



Pattern 2



Pattern 3

- A. 20
- B. 24
- C. 28
- D. 22

3 Select the odd one out.



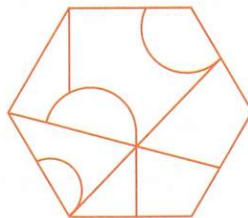
4 The code for some letters are given below.

| | | | | | | | | |
|---------|---|---|---|---|---|---|---|----|
| Letters | C | F | S | A | R | H | O | E |
| Codes | * | ? | # | α | x | @ | ÷ | \$ |

Find the code for SCORE.

- A. #*÷x\$
- B. #x÷*α
- C. ?*@x\$
- D. #*÷\$x

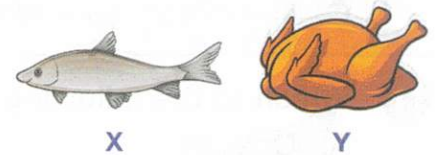
5 Select a figure from the options which is exactly embedded in the given figure as one of its parts.



SPACE FOR ROUGH WORK

6 Unscramble the given letters and select the option that correctly identifies the method by which raw food items X and Y can be preserved.

- A. GANCNIN
- B. NZEFEGRI
- C. OGIBNLI
- D. Both A and B



7 Refer to the names of animals given in the box and select the option that correctly categorises them into egg-laying and birth-giving animals.

- 1. Housefly
- 2. Duck
- 3. Kangaroo
- 4. Rat
- 5. Moth
- 6. Snake
- 7. Butterfly
- 8. Rhinoceros

Egg-laying animals

Birth-giving animals

- | | |
|------------------|---------------|
| A. 1, 4, 6, 7 | 2, 3, 5, 8 |
| B. 1, 2, 5, 6, 7 | 3, 4, 8 |
| C. 1, 4, 5, 6, 7 | 2, 3, 8 |
| D. 3, 4, 8 | 1, 2, 5, 6, 7 |

8 Starting from the first letter strike out every alternate letter to get the name of an animal and select the correct statement regarding it.

B T V O K R L T N O T I D S I E K

- A. It is a carnivorous arboreal animal.
- B. It is a shelled reptile.
- C. It shows mimicry and undergoes hibernation.
- D. It is a legless animal that has four staged life cycle.

9 Which of the following statements about first aid is **INCORRECT**?

- A. In case of minor burns, wash the burnt area with cool running water.
- B. If a person faints, avoid crowding around the person.
- C. In case of bee sting, apply a paste of baking soda.
- D. In case you get hurt while playing in the park, pour hot boiling water on the wounded area.

SPACE FOR ROUGH WORK

10 Read the given sentence and select the option that correctly fills in the blanks.
Men of Maharashtra occasionally wear a turban called (i) and the women of Maharashtra wear saree known as (ii) saree.

- A. (i) - Pheta, (ii) - Nauvari
B. (i) - Mundu, (ii) - Lungi
C. (i) - Pheta, (ii) - Mundu
D. (i) - Kediya, (ii) - Dhoti

11 Which of the following is NOT a characteristic of the item shown in the given picture?

- A. Opaque
B. Magnetic
C. Flexible
D. Non-conductor of electricity



Rubber slippers

12 Which of the following planets rotates in the opposite direction of Mercury?

- A. Jupiter
B. Saturn
C. Uranus
D. Neptune

13 Which of these Indian festivals is NOT linked to the phases of Moon?

- A. Diwali
B. Eid
C. Baisakhi
D. Karvachauth

14 Which of the following plant parts belongs to a plant that is adapted to grow on hills?

- A.  B.  C.  D. 

15 Roots of mangrove trees grow out of the soil because

- A. Their roots cannot penetrate the clayey soil
B. Main root is profusely branched and there is no room for roots to thrive
C. Clayey soil is sticky and does not have enough air for the roots of plants to breathe.
D. None of these

16 Match the given columns and select the correct option.

Column I

Column II

- | | |
|---------------------|---|
| (a) Stomach | (i) Secretes saliva |
| (b) Small intestine | (ii) Does not digest any type of food |
| (c) Large intestine | (iii) Receives digestive juices from pancreas |
| (d) Mouth | (iv) Breaks down proteins into simpler substances |

- A. (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)
B. (a)-(iii), (b)-(ii), (c)-(i), (d)-(iv)
C. (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)
D. (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

SPACE FOR ROUGH WORK

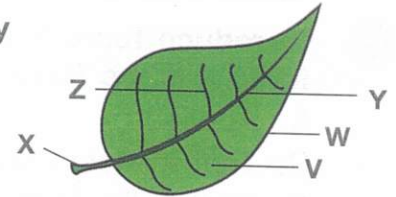
17 Names of how many forms of precipitation are hidden in the given word grid?

- A. 2
- B. 3
- C. 4
- D. 5

| | | | | | | |
|---|---|---|---|---|---|---|
| A | G | E | N | D | Y | E |
| S | H | A | I | L | T | L |
| K | V | B | M | F | S | J |
| Q | Z | R | A | I | N | R |
| C | O | G | U | C | O | B |
| A | H | F | J | X | W | H |
| I | L | W | P | K | I | D |

18 Refer to the given figure and select the option that correctly identifies - (i) Margin and (ii) Lamina.

- A. (i)-Z, (ii)-Y
- B. (i)-V, (ii)-X
- C. (i)-W, (ii)-V
- D. (i)-X, (ii)-Y



19 Select the INCORRECT statement.

- A. Down feathers keep the bird's body warm.
- B. Egret is a bird that has wading feet.
- C. Penguins have a heavy body (as compared to other birds) as they do not have hollow bones.
- D. None of these

20 What is common among the food items shown in the given box?

- A. They all protect us from falling ill.
- B. They all are obtained from animals.
- C. They help in repairing the damaged body parts.
- D. They all are energy-giving food.



21 Strike out every alternate letter starting from the first one and select the option that gives the name of a professional person that deals with gathering and writing news and stories for magazines and newspapers.

- A. ASNIDNLGPEFRL
- B. EAGCITKOMRO
- C. NBTADRRBKECRB
- D. TJPOQUARBNCATLBILSKTI

22 Select the correct match of the symbol used on map with its name.

- A. ~~~~~ - Canal
- B. ----- - Footpath
- C. HHHHHH - River
- D. None of these

23 Read the given statement and select the option which on unscrambling correctly identifies X.

X is a mineral that is used to make pencil leads.

- A. HKCAL
- B. AIGEPRHT
- C. ACLO
- D. IPEMUC

SPACE FOR ROUGH WORK

- 24 Identify the organ system to which the organ X shown in the given picture belongs and select the correct statement regarding that organ system.

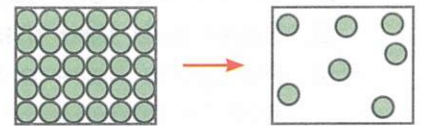
- A. It controls our actions, sense of feelings and thinking.
- B. It is responsible for removing waste materials from the body.
- C. It is responsible for digestion of food and absorption of nutrients.
- D. It gives shape to our body.



- 25 To reduce force X on a carrom board while playing, talcum powder is applied. The force X is the force _____.

- A. Applied by hand on sponge ball
- B. That makes it tough to lift heavy objects
- C. That pulls down all objects towards Earth
- D. That prevents us from slipping while walking

- 26 Identify the change of state shown in the given diagram. Now, select the item that can undergo this change at room temperature.



- A. Ice
- B. Mothballs
- C. Coffee powder
- D. Common salt

- 27 Which of the following shows an example of restoring force?



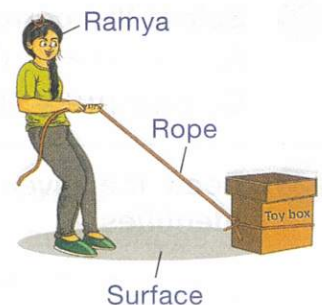
- 28 X is a material whose molecules are not very closely packed but has fixed volume.

Select the option that correctly identifies the examples of material X.

- A. Kerosene, Coconut oil
- B. Hydrogen, Steam
- C. Water, Snow
- D. Oxygen, Salt

- 29 Ramya has one box of toys which is very heavy. She is trying to pull the box with the help of a rope as shown in the given picture. Which of the following statements is correct regarding it?

- A. If a cart with wheels is placed below the box, then amount of pulling force needed to move the box will reduce.
- B. If the box is pushed down a slope, then the efforts put by her will reduce.
- C. Lifting the box and carrying it on her head will reduce Ramya's efforts.
- D. Both A and B



SPACE FOR ROUGH WORK

30 Refer to the given figures X and Y and select the INCORRECT statement regarding them.

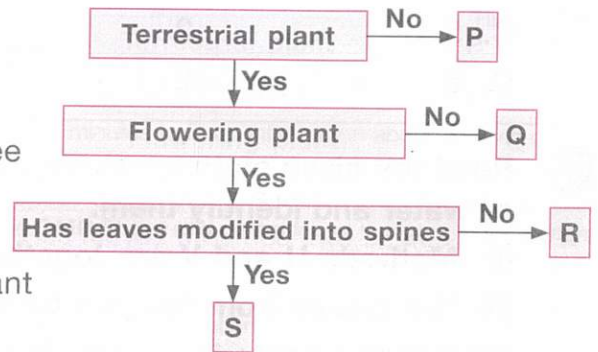
- A. In X, air above the land is cool causing the air to become dense and rises up.
- B. In Y, cooler air from land rushes towards the sea.
- C. In X, cool air from sea rushes towards the land.
- D. In Y, air above the sea is warm.



ACHIEVERS SECTION

31 Refer to the given flow chart and select the option that correctly identifies plants P-S.

- | | | | |
|-------------|--------------|-----------|--------------|
| P | Q | R | S |
| A. Lotus | Fir | Coriander | Banyan tree |
| B. Duckweed | Sundari tree | Date palm | Sugarcane |
| C. Hydrilla | Spruce | Acacia | Pepper plant |
| D. Wolffia | Cedar | Mango | Cactus |



32 Study the given table and select the property of the material that is INCORRECTLY mentioned.

| Material | Properties | | | | | |
|----------|------------|------|---------|-----------|----------------------|----------|
| | Lustrous | Hard | Ductile | Malleable | Electrical conductor | Magnetic |
| Diamond | ✓ | ✓ | x | ✓ | x | x |
| Iron | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

- A. Magnetic property of iron
- B. Malleability of diamond
- C. Electrical conductivity of diamond
- D. Ductility of iron

33 Refer to the given word grid and answer the following questions.

(i) Names of how many items found in a first-aid box are hidden in the word grid?

(ii) Names of how many items that should be used under adult supervision are hidden in the word grid?

- | | |
|------|------|
| (i) | (ii) |
| A. 2 | 2 |
| B. 2 | 3 |
| C. 3 | 2 |
| D. 3 | 3 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| T | S | Q | O | E | R | E | M | O |
| L | C | O | T | T | O | N | E | X |
| I | K | D | I | B | L | I | D | T |
| L | I | G | H | N | J | A | I | V |
| H | W | R | M | B | N | B | C | Y |
| T | D | Q | P | P | K | T | I | C |
| E | K | N | I | F | E | B | N | T |
| R | S | L | O | Z | S | L | E | K |

SPACE FOR ROUGH WORK

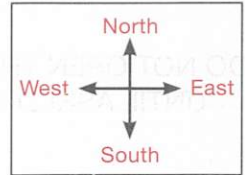
LOGICAL REASONING

- 1 There is a certain relationship between the pair of terms on the either side of ::. Identify the relationship in the left pair and find the missing term.

VHP : WGQ :: MSK : ?

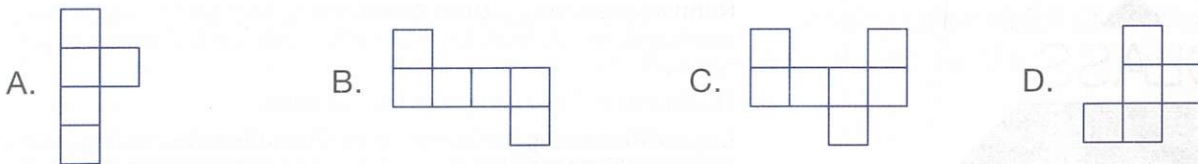
- A. NTL B. KRI C. NRL D. LRL

- 2 A man starts walking towards East. After walking some distance, he turns right and walks some more distance. He finally turns right again and walks some more distance. Which direction is he facing now?



- A. West B. South
C. East D. North

- 3 Which of the following is the NET of a cube?



- 4 If the given clock is 10 minutes slow, then the CORRECT time after 30 minutes will be _____.



- 5 Find the missing number in the given number pattern.



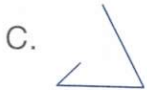
- A. 190 B. 185 C. 195 D. 180

- 6 Which of the following words can be formed from the letters of the given word?

CALCULATOR

- A. CACTUS B. COURT C. CALLER D. LUNCH

- 7 Which of the following figures is NOT exactly embedded in the given figure as one of its parts?



- 8 In a class, Gopi ranks 7th from the top and 15th from the bottom. How many students are there in the class?

A. 20

B. 22

C. 23

D. 21

- 9 Select the CORRECT mirror image of the given word.



FINAL

Mirror

A.

B.

C.

D.

- 10 In a certain code language, HOME is coded as @+6\$ and MIND is coded as 6#7÷. How will MODE be coded in the same code language?

A. 6+÷\$

B. 6+7\$

C. +@÷\$

D. #+\$÷

MATHEMATICAL REASONING

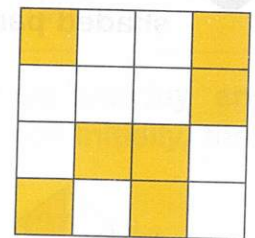
- 11 How many line(s) of symmetry is/are there in the given figure?

A. 1

B. 2

C. 0

D. 3



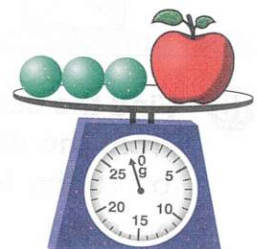
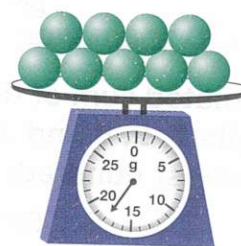
- 12 Weight of an apple is _____ g.

A. 33

B. 22






C. 28


D. 9



- 13 If M is the 5th multiple of 10 and N is the 4th multiple of 5, then find the HCF of M and N.
 A. 8 B. 10 C. 5 D. 20

DIRECTIONS (14-15) : The given pictograph shows the number of pastries made by Anand in five weeks. Study the graph carefully and answer the following questions.

| Weeks | Number of pastries made |
|-------|--|
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |

Each  stands for 50 pastries.

- 14 How many more pastries did he make in weeks 2 and 5 together than in week 1?
 A. 350 B. 400 C. 300 D. 420
- 15 If 5 pastries were packed in a box, then how many boxes will be needed to pack all the pastries?
 A. 489 B. 589 C. 230 D. 460
- 16 The Roman numeral for the greatest 3-digit number is _____.
 A. DCCXCIX B. CMCXXI C. CMXCIX D. CDXCIX

- 17 Which of the following figures has same fraction of unshaded part as the fraction of shaded part of the Fig. (X)?

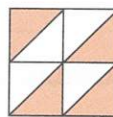
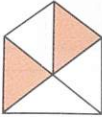
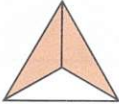
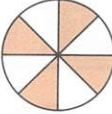
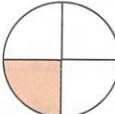
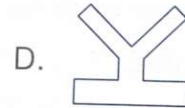
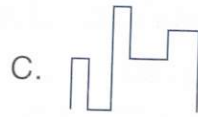
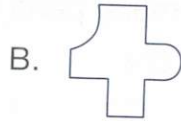
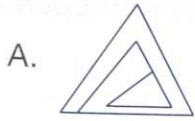


Fig. (X)

- A. 
- B. 
- C. 
- D. 

- 18 Find the estimated sum of the smallest and greatest 4-digit number that can be formed from the digits 7, 2, 5 and 3 (using each digit only once), when each number rounded off to the nearest hundreds place.
 A. 9900 B. 9000 C. 8500 D. 9800

19 Which of the following is an open figure?



20 The given clock shows the time at which a train started its journey in the evening. After covering 25 minutes of journey, it stops for 15 minutes at the next station. Now, if it takes another 45 minutes to reach its destination, then at what time will it reach the destination?



A. 8 : 40 a.m.

B. 7 : 40 p.m.

C. 8 : 25 p.m.

D. 8 : 40 p.m.

EVERYDAY MATHEMATICS

21 A group of 16 friends went for a trip. On a particular day, 3 of them went for rock climbing, 5 of them went for river rafting and rest of the friends went for paragliding. What fraction of the friends went for paragliding?

A. $\frac{2}{3}$

B. $\frac{1}{2}$

C. $\frac{1}{5}$

D. $\frac{3}{4}$

22 Jyoti reads 541 pages during her summer reading program. In order to reach her goal of 650 pages, how many more pages does she need to read ?

A. 99

B. 109

C. 119

D. 199

23 An athlete runs around a rectangular field of length 95 m and breadth 85 m. How much total distance will he cover in 5 rounds of the field?

A. 900 m

B. 1325 m

C. 1600 m

D. 1800 m

24 Preeti drank 350 mL of litchi juice on Monday, 275 mL of litchi juice on Tuesday and 525 mL of litchi juice on Wednesday. If she had 2500 mL of litchi juice initially, then what quantity of juice is left with her?

A. 1415 mL

B. 1125 mL

C. 1350 mL

D. 1275 mL

25 Kirti wrote her name on the board as shown below. How many of the following letters have parallel lines?

KIRTI

A. 4

B. 5

C. 3

D. 2

- 26 A pen manufacturing company made 42656 pens in the month of December. If equal number of pens were made every day, then how many pens were made on each day?
A. 1320 B. 1150 C. 1376 D. 1200
-
- 27 Sakshi bought a large pizza having 16 equal slices. Sakshi and her two friends ate 3 slices each. If she gave 4 slices to her brother, then what fraction of pizza is left with her?
A. $\frac{7}{16}$ B. $\frac{3}{13}$ C. $\frac{3}{16}$ D. $\frac{7}{13}$
-
- 28 Mohit bought a cloth of length 15 m. If he divided the cloth into 25 equal pieces, then find the length of each piece of cloth.
A. 55 cm B. 60 cm C. 75 cm D. 50 cm
-
- 29 There are two thousand seven hundred fifty nine coconut trees in an orchard. Which of the following numeral shows the number of coconut trees in the orchard?
A. 3579 B. 2579 C. 2759 D. 3759
-
- 30 Shreya bought 86 kg 475 g sugar and Puneet bought 79 kg 825 g sugar. Who bought less sugar and by how much?
A. Shreya, 6 kg 650 g B. Puneet, 6 kg 650 g
C. Shreya, 7 kg 350 g D. Puneet, 7 kg 350 g

ACHIEVERS SECTION

- 31 Match the following and select the CORRECT option.

Column-I

Column-II

(p) If $x + \frac{11}{20} = \frac{19}{20}$, then $x =$ _____

(i) $8\frac{5}{9}$

(q) If $\frac{7}{11} = \frac{x}{121}$, then $\frac{x}{9} =$ _____

(ii) $1\frac{2}{9}$

(r) The difference between $5\frac{1}{3}$ and $4\frac{1}{9}$ is _____

(iii) $\frac{8}{20}$

- A. (p)-(ii); (q)-(i); (r)-(iii)
C. (p)-(ii); (q)-(iii); (r)-(i)

- B. (p)-(iii); (q)-(i); (r)-(ii)
D. (p)-(iii); (q)-(ii); (r)-(i)

SPACE FOR ROUGH WORK

32 Read the given statements carefully and state T for true and F for false.

(i) The value of DCCCXIX is 819.

(ii) The number 79523 when rounded off to the nearest thousands place becomes 80000.

(iii) In the set of numbers, 4583, 7592 and 3186, if the digits at thousands place and ones place are interchanged, then the ascending order of new numbers formed is 3681, 4385 and 7295.

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

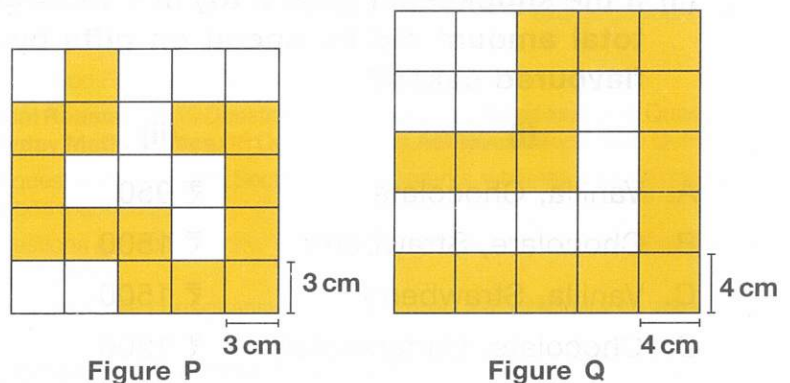
33 Observe the given figures carefully and select the INCORRECT option.

A. The perimeter of shaded part of figure P is 90 cm.

B. The perimeter of shaded part of figure Q is 112 cm.

C. The number of lines of symmetry in figure Q is 1.

D. Both B and C



34 Three groups of people went for dinner in a restaurant. The bills of their dinner are as shown below.

| | | |
|---|---|--|
| <p>XYZ Restaurant</p> <p>Soups ₹ 450 Noodles ₹ 215 Curry ₹ 320 Breads ₹ 170 Juices ₹ 350</p> <p>Group M</p> | <p>XYZ Restaurant</p> <p>Soups ₹ 300 Macroni ₹ 180 Paneer tikka ₹ 270 Chilli potato ₹ 380 Juices ₹ 430</p> <p>Group N</p> | <p>XYZ Restaurant</p> <p>Cutlets ₹ 190 Pizza ₹ 490 Burgers ₹ 250 Noodles ₹ 150 Juices ₹ 270</p> <p>Group O</p> |
|---|---|--|

How much more money was spent by groups M and O together than by group N?

- A. ₹ 1150 B. ₹ 1320 C. ₹ 1295 D. None of these

SPACE FOR ROUGH WORK

❖ Do one page English and Hindi writing (date wise) in the same page.

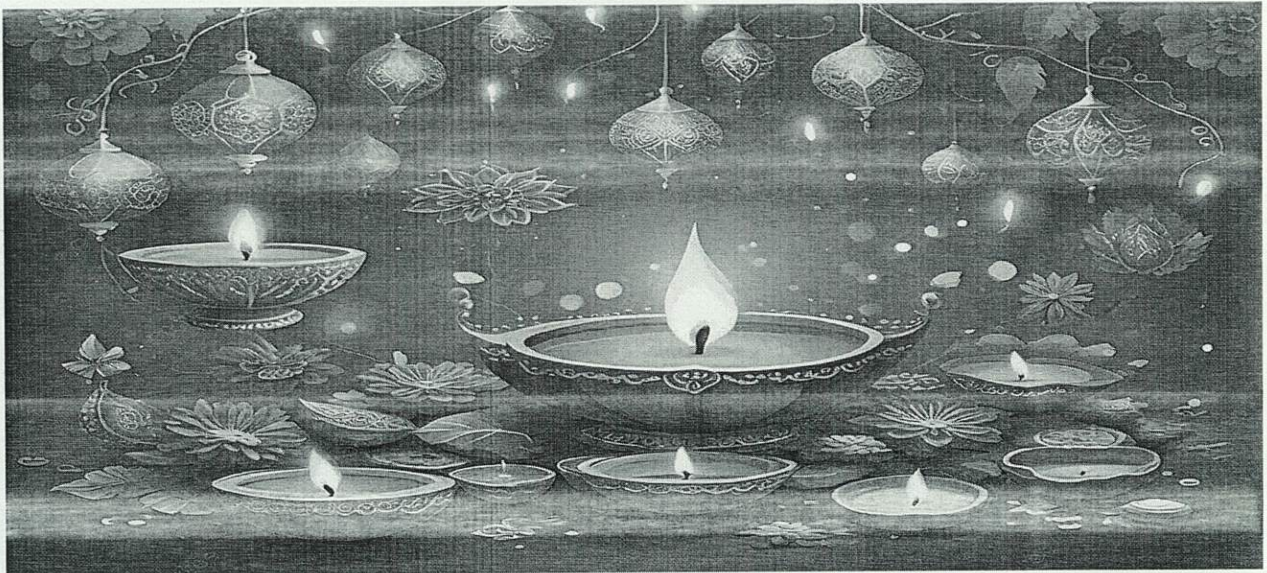
Note- All the works should be arranged in stick file.

DAV PUBLIC SCHOOL,

PATLIPUTRA COLONY, PATNA 13

DIWALI AND CHATTAH PUJA HOLIDAY

HOMEWORK

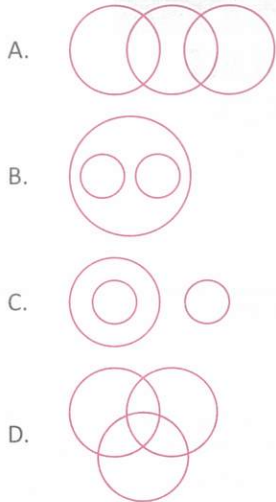


SUBJECT-SCIENCE & MATHS

CLASS-V

LOGICAL REASONING

1 Which of the following Venn diagrams best represents the relationship amongst, "Buses, Vehicles and Helicopters"?



2 Arrange the given words as they occur in a dictionary and select the correct option.

1. Detail
 2. Dance
 3. Donate
 4. Digital
 5. Develop
- A. 2, 5, 1, 4, 3
 B. 1, 5, 2, 3, 4
 C. 2, 1, 5, 4, 3
 D. 2, 4, 1, 5, 3

3 There is a certain relationship between the pair of figures on the either side of :: . Identify the relationship between the left pair and find the missing figure.



- A.
- B.
- C.
- D.

4 Aarav walks 15 m towards East. He then turns right and walks 30 m and then turns right again and walks 15 m. Finally, he turns left and walks 10 m. How far is he now from the starting point?

- A. 35 m
 B. 40 m
 C. 30 m
 D. 20 m

5 Find the missing term in the given pattern.

EU, IT, MS, QR, UQ, ?

- A. YP
 B. XS
 C. YR
 D. XP

6 Aditi's father correctly remembers that Aditi's school picnic is after 7th November but before 12th November. Her mother correctly remembers that Aditi's picnic is after 9th November but before 13th November. Her sister correctly remembers that the picnic is on an odd date. On which date is Aditi's school picnic?

- A. 13th November
 B. 10th November
 C. 11th November
 D. 9th November

7 Select the correct water image of the given figure.



- A.
- B.
- C.
- D.

8 Komal is the daughter of Bhavani. Bhavani is the wife of Rajiv and Vijay is the son of Rajiv. How is Vijay related to Komal?

- A. Father
- B. Brother
- C. Uncle
- D. Son

9 Some letters are coded in a certain code language as given below.

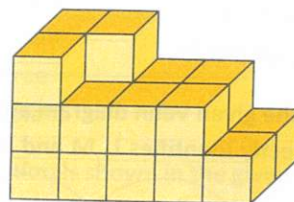
| | | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|---|
| Letters | N | E | T | A | M | B | O | L | G |
| Codes | ↑ | ? | < | & | * | > | + | ↓ | λ |

What will be the code for BENGAL?

- A. > & ? ↑ * ↓

- B. > ? ↑ λ & ↓
- C. + ? ↓ + & ↑
- D. > ? ↑ λ & <

10 Count the number of cubes in the given figure.



- A. 21
- B. 20
- C. 22
- D. 24

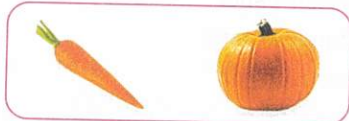
SCIENCE

11 Refer to the given analogy and select the option that correctly identifies X.

Gills : Prawn :: Spiracles : X

- A. Snake
- B. Earthworm
- C. Dragonfly
- D. Amoeba

12 Refer to the given set of food items and identify the vitamin they are rich in.



Now, select the correct statement regarding this vitamin.

- A. Its deficiency causes weak bones and muscles.
- B. Its deficiency causes goitre.
- C. Its deficiency causes scurvy.
- D. Its deficiency causes difficulty in seeing in dim light.

13 Which among the given plants reproduces through spores?

- A. Poppy
- B. Moss
- C. Cocklebur
- D. Dandelion

14 Select the incorrect statement.

- A. Poisonous gases are released during volcanic eruptions.
- B. An erupting volcano may trigger tsunami or earthquake.

- C. The Barren Island is an active volcano in the Andaman Islands in India.
- D. None of these

15 Select the option that correctly categorises the following changes.

| Physical Change | Chemical Change |
|-----------------------|------------------------|
| A. Shredding of paper | Breaking of glass bowl |
| B. Baking a cake | Rotting of banana |
| C. Chopping a carrot | Souring of milk |
| D. Boiling an egg | Digestion of food |

16 Read the given statements and select the option that identifies the correct one(s).

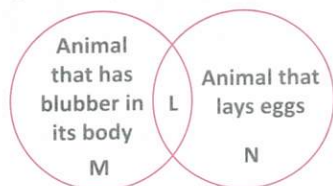
- (i) Friction is greater on rough surfaces.
 - (ii) Electrostatic forces can be attractive or repulsive.
 - (iii) Light can pass through liquid and gaseous medium but not through vacuum.
 - (iv) Sound travels fastest in vacuum and slowest in a solid medium.
- A. (i) and (ii) only
 - B. (iii) and (iv) only
 - C. (ii) and (iii) only
 - D. (iv) only

17 Which of the following statements is correct regarding different layers of Sun?

- A. Core can only be seen during a total solar eclipse.
- B. Nuclear fusion takes place in Corona.
- C. Photosphere is the visible surface of the Sun which gives off light.
- D. All of these

- 18 It is a communicable disease that is caused by fungi and spread by direct or indirect contact. Identify it.
- Diarrhoea
 - Influenza
 - Ringworm
 - Common cold

- 19 Refer to the given Venn diagram and select the option that correctly identifies L, M and N.



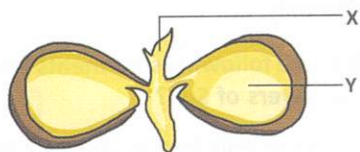
- | L | M | N |
|-------------------|------------|-------------------|
| A. Eel | Lizard | Earthworm |
| B. Penguin | Polar bear | Locust |
| C. Humpback whale | Penguin | Monarch butterfly |
| D. Salmon | Walrus | Kangaroo |
- 20 Select the incorrect match.
- Migration – Locust
 - Camouflage – Polar bear
 - Mimicry – Viceroy butterfly
 - None of these

- 21 Match the columns and select the correct option.

| Column I | Column II |
|---------------------|-----------------|
| (a) Sowing | (i) Scarecrow |
| (b) Crop protection | (ii) Seed drill |
| (c) Harvesting | (iii) Sack |
| (d) Storing | (iv) Sickle |

- (a) - (ii), (b) - (i), (c) - (iv), (d) - (iii)
- (a) - (iii), (b) - (ii), (c) - (i), (d) - (iv)
- (a) - (ii), (b) - (iv), (c) - (iii), (d) - (i)
- (a) - (iv), (b) - (i), (c) - (ii), (d) - (iii)

- 22 Refer to the given figure and select the correct option about the parts X and Y of seed.



- Part X gives rise to the leaves of a new plant.
- Part Y gives nutrition to the young plant.
- Part Y gives rise to a new plant.
- Both A and B

- 23 Which of the following folk dance forms belongs to the state of Karnataka?
- Chhau
 - Yakshagana
 - Cheraw
 - Thang Ta

- 24 Montreal Protocol was signed in _____ to phase out the production and consumption of _____.
- 1897, Oxygen
 - 1987, Carbon monoxide
 - 1987, Ozone Depleting Substances
 - 1887, Methane

- 25 Which of the following statements is incorrect?
- Melting and boiling points of a pure substance is always fixed.
 - Solubility of solids in water generally increases with an increase in temperature.
 - Substances that are less dense than water, usually sink in water.
 - Gas molecules can fill almost all the space available to them.

- 26 Select the odd one out on the basis of amount of light that passes through them.
- Glass tumbler
 - Butter paper
 - Window pane
 - Air

- 27 Saroj grouped a first class lever and a third class lever together in each of the following groups. Out of these only one group has the correct pair of levers. Identify this group and select the correct option.
- Pliers, Bottle opener
 - Scissors, Fishing rod
 - See-saw, Crowbar
 - Wheelbarrow, Tweezers

- 28 Which of the following options contains an item where solute and solvent both are solid?
- Brass
 - Mercury in gold
 - Hydrogen in platinum
 - Soft drink

- 29 Which of the following is a historical monument situated in Delhi and built by Maharaja Jai Singh II?
- Gateway of India
 - Jantar Mantar

- C. Lotus Temple
- D. Alai Darwaza

30 Read the given statements and select the option that fills any two of the given blanks.

- (i) Tying a _____ around a fractured limb can help in preventing the movement of the broken bone.
 - (ii) Rabies can be spread by _____.
 - (iii) We should never use _____ to put off the fire if it is caused by electricity.
 - (iv) A _____ can be used to stop the bleeding in case of injury.
- A. (i)-Splint, (ii)-Mosquitoes
 - B. (ii)-Cats, (iv)-Tourniquet
 - C. (i)-Sling, (iii)-Fire extinguisher
 - D. (ii)-Cockroach, (iv)-Crepe bandage

31 Which of the following can be found in the given word grid?

| | | | | | | |
|---|---|---|---|---|---|---|
| A | Y | D | U | K | B | G |
| T | G | O | N | D | V | M |
| N | O | P | L | S | F | E |
| X | L | H | U | M | U | S |
| E | D | D | B | C | W | F |
| Q | S | L | A | T | E | C |
| Z | A | A | K | J | R | I |

- A. A tribe that lived in Andaman Islands, but is now extinct
- B. An example of energy mineral
- C. A metamorphic rock that is formed from a hard igneous rock
- D. A component of soil that is present in the most fertile layer of the soil

32 Refer to the given table and select the incorrect option regarding P-S.

| Characteristic | Plant | | | |
|-----------------------------|-------|---|---|---|
| | P | Q | R | S |
| Terrestrial plant | ✓ | ✓ | ✓ | ✗ |
| Bears cones | ✓ | ✗ | ✗ | ✗ |
| Leaves modified into spines | ✗ | ✓ | ✗ | ✗ |
| Has breathing roots | ✗ | ✗ | ✓ | ✗ |

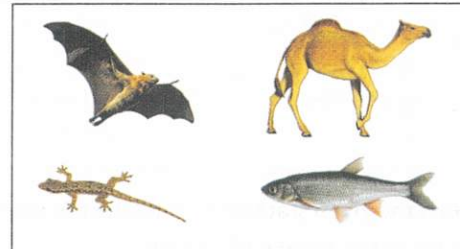
- A. P can be cedar whereas S can be *Hydrilla*.
- B. Q can be cactus whereas S can be tape grass.
- C. P can be peepal tree whereas R can be larch tree.
- D. Q can be cactus whereas R can be Sundari tree.

33 Select the correct option to complete the given analogy.

Hydrilla : Stomata absent :: _____ : Flowers absent

- A. Rubber plant
- B. Pepper plant
- C. Spruce tree
- D. Banana plant

34 Refer to the animals shown in the given box and select the correct statement regarding them.



- A. They all are egg-laying mammals.
- B. They all are terrestrial animals.
- C. They all are omnivorous animals.
- D. They all are vertebrates.

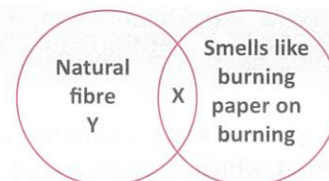
35 Which of the following statements is correct?

- A. Pupa of a housefly is called maggot.
- B. Larva of a butterfly is called chrysalis.
- C. Young one of cockroach and grasshopper are called nymph.
- D. Larva of a frog is called spawn.

36 Select the incorrect match.

| Preservation method | Food item |
|---------------------|----------------|
| A. Canning | – Corn kernels |
| B. Boiling | – Pickle |
| C. Drying | – Raisins |
| D. Freezing | – Raw meat |

37 Refer to the given Venn diagram and select the option that correctly identifies X and Y.



- | | | |
|----|--------|-----------|
| | X | Y |
| A. | Linen | Rayon |
| B. | Jute | Nylon |
| C. | Cotton | Polyester |
| D. | Cotton | Wool |

38 Which among the following safety rules should we not follow at home?

- A. Keep the bathroom floor dry when not in use.
- B. Never use knife, scissors and matchbox on your own.
- C. Leave the toys scattered after you are done playing.
- D. Both A and B

39 Refer to the names of food items given in the box.

Egg, Cheese, Butter, Mustard oil,
Ghee, Bread, Sugar, Potato, Chicken

How many among them are body-building food items?

- A. 2
- B. 3
- C. 4
- D. 5

40 Read the given statement and select the correct option to fill in the blanks (i) and (ii).

On (i), camphor changes to its (ii) state.

- | (i) | (ii) |
|------------|---------|
| A. Heating | Liquid |
| B. Cooling | Liquid |
| C. Cooling | Gaseous |
| D. Heating | Gaseous |

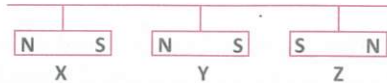
41 Refer to the given table.

| Types of waste | |
|----------------|--------------------|
| Group I | Group II |
| X | Broken phone |
| Eggshells | Y |
| Crumpled paper | Broken plastic jar |

Which of the following can be placed at X and Y?

- | X | Y |
|------------------------|---------------|
| A. Marble coaster | Ceramic plate |
| B. Wood chips | Steel spoon |
| C. Cotton handkerchief | Woollen socks |
| D. Glass bowl | Straw bundle |

42 What will happen when three bar magnets are hung in the manner as shown in the given figure?



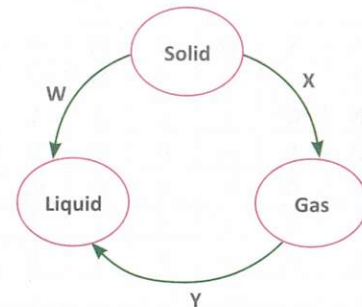
- A. Nothing will happen.
- B. Magnet Z will turn round and round.
- C. Magnet Y will move towards magnet Z.
- D. Magnet Y will move towards magnet X.

43 Which of the following statements is correct regarding the given materials?

Marble, Iron pin, Pebble

- A. They all are lustrous and non-magnetic.
- B. They all are hard and magnetic.
- C. They all are malleable and elastic.
- D. They all are opaque and sink in water.

44 Identify the processes W-Y in the given diagram and select the correct match.



- A. W – Defrosting of refrigerator
- B. X – Naphthalene ball exposed in air disappears in few days
- C. Y – Loss of water through leaves of plants
- D. Both A and B

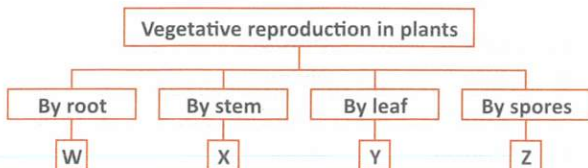
45 Which of the following phases of Moon will immediately follow the phase of Moon shown in the given picture?

- A. Waxing Crescent Moon
- B. Half Moon
- C. Waning Gibbous Moon
- D. Waning Crescent Moon



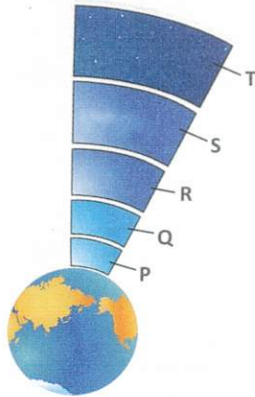
ACHIEVERS SECTION

46 Study the given classification chart and select the statement which is correct regarding W, X, Y and Z.



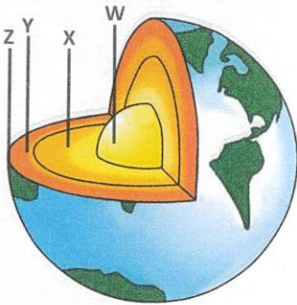
- A. W can be *Hibiscus* or strawberry whereas X can be *Dahlia* or rose.
- B. X can be carpet grass or potato whereas Y can be *Begonia* or *Bryophyllum*.
- C. Y can be onion or beetroot whereas Z can be fungi or moss.
- D. Z can be *Bryophyllum* or fern whereas W can be kidney bean or ginger.

- 47 Refer to the given figure showing different layers of atmosphere P-T and select the correct statement regarding them.



- A. Layer R prevents meteorites from reaching the Earth's surface.
 B. Layer T absorbs harmful ultraviolet rays of the Sun.
 C. Satellites orbit around the Earth in layer P.
 D. All the weather changes take place in layer Q.

- 48 Refer to the given diagram showing internal structure of Earth and select the correct statement regarding W, X, Y and Z.



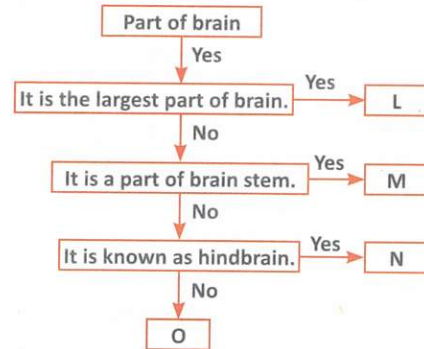
- A. W is rocky and is broken into many pieces called plates.
 B. X is about 2200 km thick and is in molten state.
 C. Y forms the continents and ocean floors.
 D. Despite having the hottest temperature, Z always remains in molten state.

- 49 Study the given table and select the correct option regarding P, Q, R and S.

| Characteristic | Animal | | | |
|------------------------|--------|---|---|---|
| | P | Q | R | S |
| Has canines | ✓ | ✗ | ✓ | ✗ |
| Has hair on body | ✓ | ✓ | ✓ | ✗ |
| Breathes through lungs | ✓ | ✓ | ✓ | ✓ |
| Can fly | ✗ | ✗ | ✓ | ✓ |

- A. P can be lion or vulture, while Q can be squirrel or monkey.
 B. Q can be fish or turtle, while R can be grasshopper or parakeet.
 C. R can be bat or porcupine, while S can be butterfly or dragonfly.
 D. P can be wolf or tiger, while S can be woodpecker or swallow.

- 50 Refer to the given flow chart. Identify L, M, N and O and select the correct statement regarding them.



- A. L controls thinking, learning and memory while M regulates heartbeat and blood pressure.
 B. N controls all involuntary functions while M controls musculoskeletal movement of the body.
 C. L maintains balance and posture while O relays information between spinal cord and brain.
 D. All of these

SPACE FOR ROUGH WORK

LOGICAL REASONING

- 1 If all digits are removed from the given arrangement, then which of the following elements is exactly between fifth element from the left end and fifth element from the right end?

V T 4 @ K 7 # G R 2 + J A 6 F \$ 3 S

- A. +
- B. R
- C. #
- D. G

- 2 The given clock shows the time at which the class-test started in the morning. If the class-test ended at 1 : 20 p.m., then what was the duration of the test?



- A. 1 hour 30 minutes
- B. 2 hours 15 minutes
- C. 1 hour 45 minutes
- D. 1 hour 25 minutes

- 3 Select the odd one out.

A.

B.

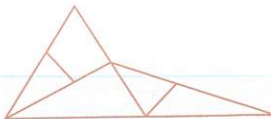
C.

D.

- 4 In a certain code language, if 'SMART' is written as 'AMRST', then how will 'VALUE' be written in the same code language?

- A. EULAV
- B. AELUV
- C. AVLEU
- D. BWMVF

- 5 Find the number of triangles formed in the given figure.



- A. 8
- B. 9
- C. 10
- D. More than 10

- 6 Pointing towards Alok, a man said, "He is the brother of my only daughter." How is the man related to Alok?

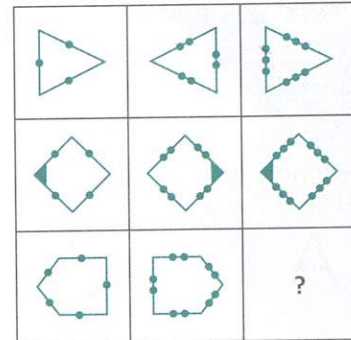
- A. Father
- B. Brother
- C. Son
- D. Grandfather

- 7 Arrange the given words as they occur in a dictionary and select the CORRECT option.

- | | |
|-----------|----------|
| 1. Motive | 2. Mind |
| 3. Marine | 4. Movie |
| 5. Metal | |

- A. 3, 2, 1, 4, 5
- B. 3, 5, 2, 1, 4
- C. 5, 3, 1, 2, 4
- D. 3, 5, 2, 4, 1

- 8 Find the missing figure in the given figure matrix.



- A.
- B.
- C.
- D.

- 9 Select the CORRECT mirror image of the given combination of letters and numbers.

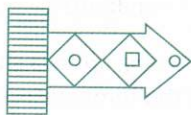


- A.
- B.
- C.
- D.

- 10 If the day before yesterday was Wednesday, then what will be sixth day from tomorrow?

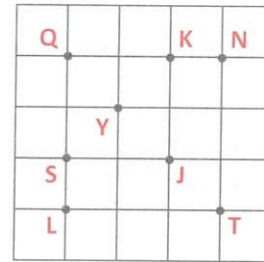
- A. Friday
B. Monday
C. Thursday
D. Saturday

- 11 Which of the following options will be obtained after rotating the given figure $3\frac{1}{4}$ turns to the right?



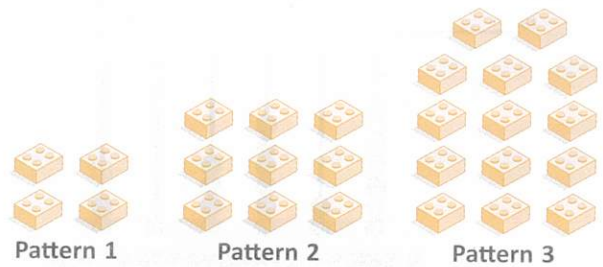
- A.
- B.
- C.
- D.

- 12 Which of the following points is in the North-West of point J?



- A. Y
B. N
C. Q
D. Both A and C

- 13 Study the given patterns carefully. What will be the number of blocks in Pattern 9?



- A. 39
B. 44
C. 49
D. 41

- 14 How many different possible combinations of 1 teacher and 1 subject each can be formed from the given teachers and subjects?

| Teachers | Subjects |
|----------|----------|
| Varun | Science |
| Janvi | Hindi |
| Kajal | Maths |
| Gopal | English |
| Nikita | |

- A. 20
B. 9
C. 24
D. 18

- 15 There is a certain relationship between the pair of terms on the either side of :: . Identify the relationship on the left pair and find the missing term.

T4M : X8Q :: E2V : ?

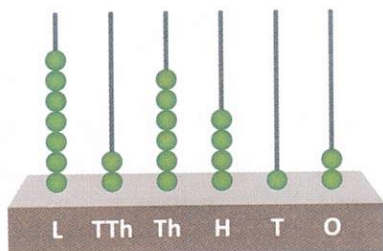
- A. H4Y
B. I5Z
C. I6Z
D. H6Y

MATHEMATICAL REASONING

16 Which of the following is equivalent to $\frac{3}{5}$?

- A. $\frac{81}{125}$
- B. $\frac{70}{625}$
- C. $\frac{27}{125}$
- D. $\frac{75}{125}$

17 The number name for the number shown on the given abacus in International system of numeration is _____.



- A. Seven lakh twenty six thousand four hundred twelve
- B. Seventy two lakh six thousand four hundred twelve
- C. Seven hundred twenty six thousand four hundred twelve
- D. None of these

18 Tank A contains 5 times as much water as Tank B. How much water must be transferred from Tank A to Tank B so that each tank contains 45 litres of water?

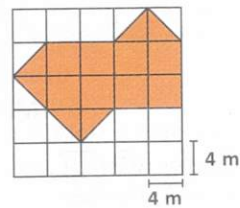
- A. 30 litres
- B. 60 litres
- C. 75 litres
- D. 45 litres

19 The smaller angle formed between the hands of the given clock is a/an _____.



- A. Acute angle
- B. Reflex angle
- C. Obtuse angle
- D. Right angle

20 Find the area of the shaded part of the given figure.



- A. 182 sq.m
- B. 138 sq.m
- C. 150 sq.m
- D. 176 sq.m

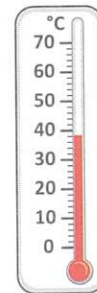
21 Which of the following is/are true about the number 30?

- A. It has three prime factors.
- B. It is a common multiple of 8 and 15.
- C. The sum of all factors of 30 is 72.
- D. Both A and C

22 Which of the following is the smallest?

- A. 8 hundreds + 7 tenths
- B. 5 tens + 15 hundredths
- C. 7 hundreds + 9 tenths + 2 hundredths
- D. 70 tens + 7 hundredths

23 Which of the following options shows the temperature 23°C more than the temperature shown on the given thermometer?

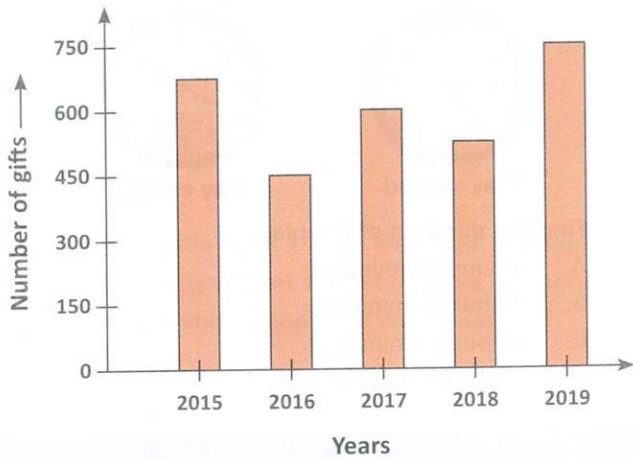


- A. 51°C
- B. 53°C
- C. 63°C
- D. 61°C

24 Find the difference between the greatest and the smallest 5-digit number formed by using the digits 3, 5, 2 and 9 (using each digit at least once).

- A. 77252
- B. 65216
- C. 77173
- D. 70125

DIRECTIONS (25-26): The given bar graph shows the number of gifts distributed by a company to its employees during the given five years. Study the given graph carefully and answer the following questions.



- 25** How many total gifts were distributed in the years 2016, 2018 and 2019 together?
- A. 1725
B. 1570
C. 1820
D. 1915
- 26** The maximum number of gifts were distributed in _____ and minimum in _____.
- A. 2016, 2019
B. 2019, 2018
C. 2016, 2015
D. 2019, 2016

- 27** How many of the following letters have at least two lines of symmetry?

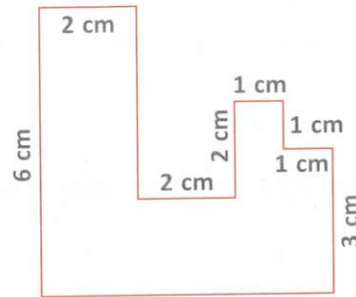
SPIDER

- A. 0
B. 1
C. 2
D. More than 2
- 28** Compare and fill the box using $>$, $<$ or $=$.

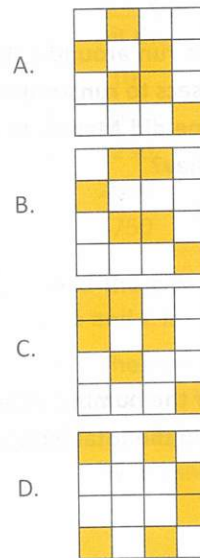
MMCMLIX MMDCLXIV

- A. $>$
B. $=$
C. $<$
D. Can't be determined

- 29** Find the perimeter of the given figure (not drawn to scale).



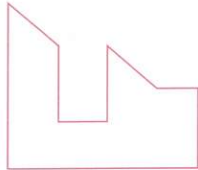
- A. 32 cm
B. 28 cm
C. 26 cm
D. None of these
- 30** What must be added to the sum of $5\frac{5}{11}$ and $3\frac{2}{33}$ to get $10\frac{1}{11}$?
- A. $1\frac{19}{33}$
B. $2\frac{13}{33}$
C. $1\frac{11}{19}$
D. None of these
- 31** Which of the following figures does NOT have any line of symmetry?



- 32** Round off the number 86258 to the nearest thousands place. Find the digit at hundreds place in the new number obtained.
- A. 1
B. 0
C. 2
D. 7

- 33 The highest common factor of 75 and 600 is _____.
- A. 15
B. 60
C. 75
D. None of these

- 34 How many right angles are there inside the given figure?



- A. 2
B. 3

- C. 4
D. More than 4

- 35 The given clocks shows the time at which a play started and ended in the evening.



Play started



Play ended

Find the duration of the play.

- A. 2 hours 10 minutes
B. 1 hour 25 minutes
C. 1 hour 15 minutes
D. 2 hours 5 minutes

EVERYDAY MATHEMATICS

- 36 The population of a country in year 2012 was 21568206. By year 2022, it was increased to 26075125. By how much did the population of the country increase in 10 years?

- A. 3981579
B. 4721325
C. 3802158
D. 4506919

- 37 Manish took 12 mins 30 secs to run around a 800 m track. Raghav took 13 mins 45 secs to run around the same track. How much less time did Manish take to run around the track than Raghav?

- A. 3 mins 10 secs
B. 1 min 15 secs
C. 2 mins 5 secs
D. 2 mins 3 secs

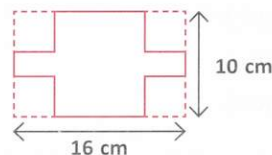
- 38 Hemant bought 18 necklaces. If the number of beads in each necklace is 375, then find the total number of beads in all necklaces.

- A. 6120
B. 5980
C. 5780
D. 6750

- 39 Kritika bought 5 laptops and 2 printers for her office. If 1 laptop and 1 printer cost ₹ 37500 and ₹ 5250 respectively, then how much total money did she spend in all?

- A. ₹ 205000
B. ₹ 145000
C. ₹ 198000
D. ₹ 187500

- 40 Divya cuts off 4 squares from edges of a rectangular piece of cardboard as shown below. The area of each small square that she cuts off is 4 sq. cm. What is the remaining area of the cardboard?



- A. 122 sq. cm
B. 160 sq. cm
C. 144 sq. cm
D. 148 sq. cm

- 41 If three friends Sakshi, Varun and Divij had DCCVII, CMXLII and MCLIV marbles respectively, then who has maximum number of marbles?

- A. Sakshi
B. Divij
C. Varun
D. Can't say

- 42 Out of a group of 48 people, if 15 went for boating, 21 went for shopping and rest of them went for watching movie, then what fraction of total people went for watching movie?

- A. $\frac{1}{4}$
 B. $\frac{2}{3}$
 C. $\frac{3}{5}$
 D. $\frac{1}{8}$

43 A tea kettle holds 1 L 625 mL of tea. If a small tea cup of capacity 125 mL is used to serve one person, then for how many people tea can be served?

- A. 12
 B. 10
 C. 13
 D. 15

44 Amisha wants to put lace around 10 triangular shaped cushions. The sides of each cushion measures 50 cm, 50 cm and 80 cm. Find the total cost of lace used, if 1 cm of lace costs ₹ 7.50.

- A. ₹ 10700
 B. ₹ 13500
 C. ₹ 15200
 D. ₹ 14800

45 Sahil has two bags of wheat 14.259 kg and 35.608 kg. He was asked to add the two quantities but instead of adding, he subtracted the two quantities. Find the difference between the correct and incorrect answer.

- A. 36.186 kg
 B. 32.172 kg
 C. 28.518 kg
 D. None of these

ACHIEVERS SECTION

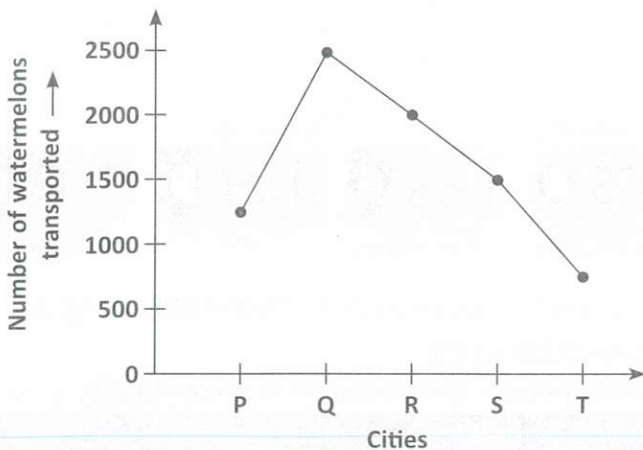
46 Read the given statements carefully and select the CORRECT option.

Statement-I : The sum of CCLXXIV, CDXXIII and MMCXVII, when rounded off each number to nearest hundreds place is 2900.

Statement-II : The number 62579 when divided by 37 gives quotient as 1691 and remainder as 17.

- A. Both Statement-I and Statement-II are true.
 B. Both Statement-I and Statement-II are false.
 C. Statement-I is true but Statement-II is false.
 D. Statement-I is false but Statement-II is true.

47 The given line graph shows the number of watermelons transported to five different cities in a week. Study the graph carefully and answer the following questions.



(i) Find the difference between the total number of watermelons transported to cities P and R together and the number of watermelons transported to city T.

(ii) If the transportation cost of every 50 watermelons is ₹ 125, then find the total cost of transporting all the watermelons.

- | | (i) | (ii) |
|----|------|---------|
| A. | 2500 | ₹ 17500 |
| B. | 2250 | ₹ 20000 |
| C. | 2500 | ₹ 20000 |
| D. | 1750 | ₹ 17500 |

48 Read the given statements carefully and state T for true and F for false.

(i) The number of lines of symmetry in a rectangle is 2.

(ii) In the given word, there are only 2 letters which have exactly one line of symmetry.

KITE

(iii) The figure  has two lines of symmetry.

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

❖ Do one page English and Hindi writing (date wise) in the same page.

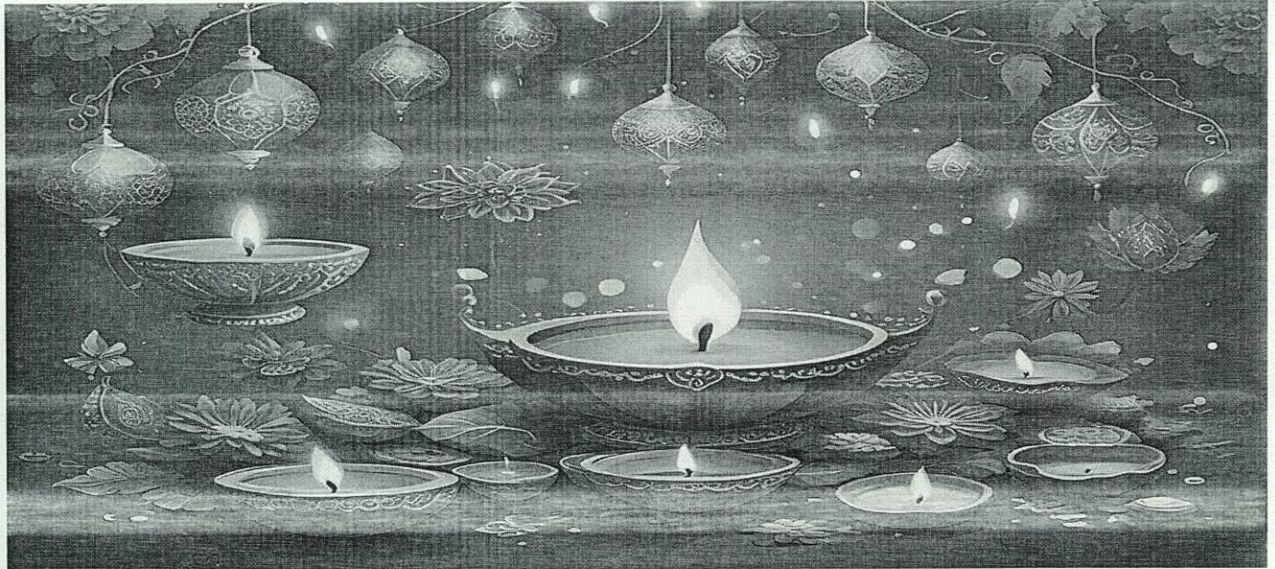
Note- All the works should be arranged in stick file.

DAV PUBLIC SCHOOL,

PATLIPUTRA COLONY, PATNA 13

DIWALI AND CHATHA PUJA HOLIDAY

HOMEWORK



SUBJECT-SCIENCE & MATHS

CLASS-VI

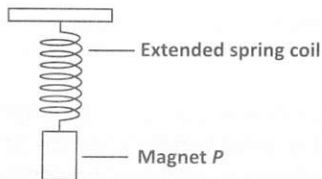
What is the approximate thickness of each coin?

- A. 2.2 mm B. 2.8 mm
C. 1.6 mm D. 1.3 mm

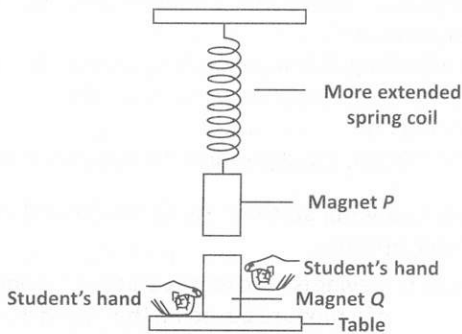
13. Read the given statements and select the option that correctly identifies the incorrect one(s).

- (i) Comets are often described as dirty snowballs.
(ii) Sun flares are large explosions on the surface of the Sun that emit intense radiation.
(iii) The great red spot is a huge storm swirling on the planet Jupiter since centuries.
(iv) Crescent moon is more visible than Gibbous moon.
- A. (ii) and (iii) only B. (i) and (iii) only
C. (iv) only D. (i), (iii) and (iv) only

14. A student hung a magnet on a spring coil as shown in the given diagram.



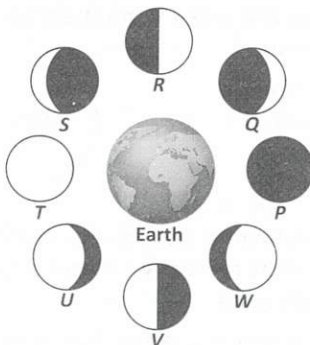
Next, he held another magnet under the first magnet as shown here.



What had caused the spring coil to extend?

- A. Magnet P was too heavy for the spring coil.
B. Magnet P repelled magnet Q.
C. Magnet P became stronger.
D. Magnet Q attracted magnet P.

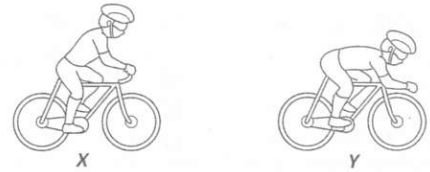
15. A lunar cycle is represented in the given figure. Preeti observes an error in it.



Which one of the following options does rectify the error?

- A. U and W should interchange positions.
B. S and R should interchange positions.
C. S and W should interchange positions
D. U and Q should interchange positions.

16. Aditya tries two different styles X and Y while cycling as shown in the given figures.



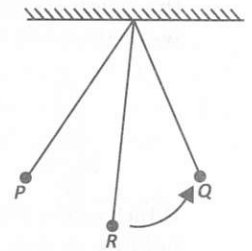
Read the given statements and select the option that correctly identifies them as true (T) and false (F) ones.

- I. In style X cycle is faster than in style Y.
II. The direction of frictional force on both the wheels in X and Y is backward.
III. His shape is more streamlined in style Y than in style X, resulting in less frictional force of air.
IV. The tyres of the bicycle represent both rotatory and translatory motion.

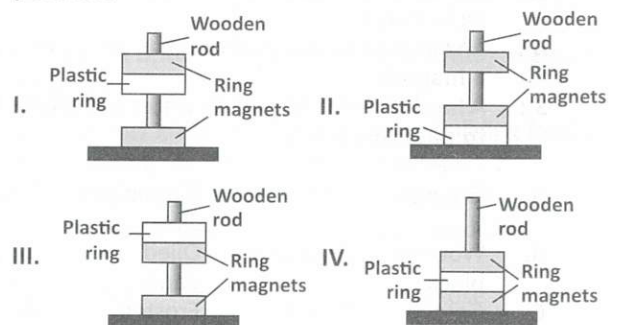
| | I | II | III | IV |
|----|---|----|-----|----|
| A. | F | F | T | T |
| B. | T | T | F | T |
| C. | F | T | T | F |
| D. | F | F | F | T |

17. A simple pendulum oscillates between points P and Q as shown in the given figure and its time period is T. If time taken to go from R to Q is t, which one of the given relations is correct?

- A. $t = T$
B. $t = \frac{T}{2}$
C. $t = \frac{T}{4}$
D. $t = \frac{T}{8}$

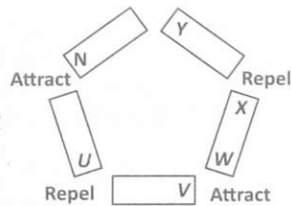


18. There are three rings. One of the rings is made up of plastic while the other two are ring magnets. The rings are placed on top of one another and hooped through a wooden rod as shown in the given figures. Which among the following arrangement(s) is/are possible?



- A. IV only B. II and III only
C. II, III and IV only D. I, II, III and IV

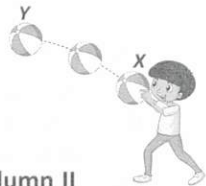
19. Five magnets are arranged in a combination as shown in the given figure.



Which one of the following options correctly represents the polarities at U, V, W, X and Y?

| | U | V | W | X | Y |
|----|---|---|---|---|---|
| A. | N | S | S | N | N |
| B. | N | S | N | S | N |
| C. | S | N | N | S | N |
| D. | S | N | N | N | S |

20. Sachin throws a ball as shown in the given figure.

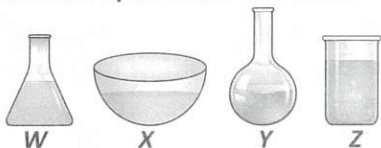


Match column I with column II and select the correct option from the given codes.

| Column I | Column II |
|--|-----------------------------------|
| (p) Mass of the ball | (i) Increases from X to Y |
| (q) Kinetic energy of the ball | (ii) Decreases from X to Y |
| (r) Gravitational potential energy | (iii) Remains same from X to Y |
| (s) Gravitational force due to the Earth | (iv) Data insufficient to observe |

A. (p)–(iii), (q)–(ii), (r)–(i), (s)–(iv)
 B. (p)–(iii), (q)–(i), (r)–(ii), (s)–(ii)
 C. (p)–(ii), (q)–(iii), (r)–(iv), (s)–(i)
 D. (p)–(iii), (q)–(ii), (r)–(i), (s)–(iii)

21. 100 mL of water at 25 °C was poured into each of the given containers W, X, Y and Z. The containers were then left open under the sun.



Which of the following containers will have minimum volume of water after a few hours?

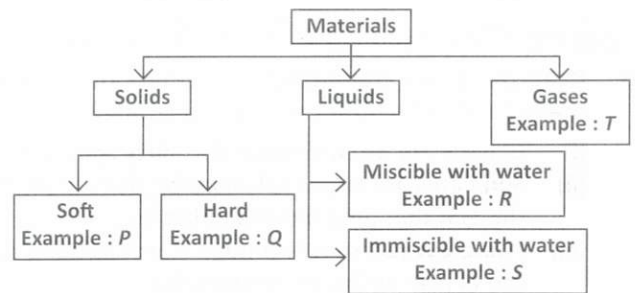
| | |
|------|------|
| A. X | B. Z |
| C. Y | D. W |

22. Read the given information and identify P, Q, R and S by selecting the correct option.

P: Has a definite volume and is lustrous.
Q: A brown coloured viscous liquid that is miscible with water.
R: A transparent material which is not attracted by a magnet.
S: A hard object that sinks in water and allows heat to pass through it.

| | P | Q | R | S |
|----|--------------|-------------|-----------------|-------------|
| A. | Graphite | Mustard oil | Aluminium sheet | Sponge |
| B. | Wooden block | Glycerine | Oiled paper | Copper nail |
| C. | Gold ring | Coffee | Frosted glass | Rubber ball |
| D. | Diamond | Honey | Clear glass | Iron rod |

23. Refer to the given flow chart and select the option which correctly identifies P, Q, R, S and T.



| | P | Q | R | S | T |
|----|-------------|---------------|---------|---------|----------------|
| A. | Butter | Copper coin | Vinegar | Honey | Oxygen |
| B. | Salt | Chalk powder | Oil | Milk | Nitrogen |
| C. | Cotton ball | Aluminium rod | Milk | Oil | Hydrogen |
| D. | Sponge | Diamond | Oil | Vinegar | Carbon dioxide |

24. Tina was given a mixture of naphthalene powder, iron nails, sand and salt. Which of the following set of techniques is used to separate all the components of this mixture?

| | |
|----|---|
| A. | Magnetic separation, Sublimation, Filtration, Evaporation |
| B. | Handpicking, Winnowing, Evaporation, Sieving |
| C. | Distillation, Separating funnel, Handpicking, Sublimation |
| D. | Sublimation, Condensation, Sieving, Winnowing |

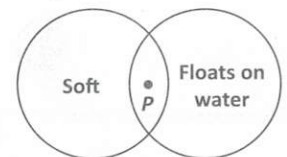
25. Read the following statements carefully and select the correct option.

Statement 1: Sieving is used for separating components of a mixture based on their particles size.
Statement 2: Loading is a method of separation of a solid from a liquid, in which the suspended particles are rotated at high speed.

| | |
|----|---|
| A. | Both statements 1 and 2 are true. |
| B. | Statement 1 is false but statement 2 is true. |
| C. | Statement 1 is true but statement 2 is false. |
| D. | Both statements 1 and 2 are false. |

26. Identify P in the given Venn diagram and select the correct option.

| | |
|----|-------------|
| A. | Silver ring |
| B. | Clay ball |
| C. | Feather |
| D. | Metal coin |



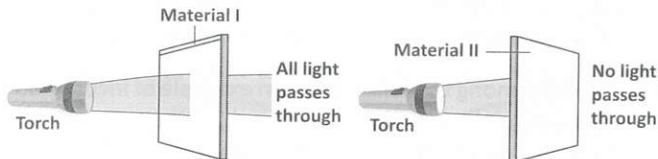
27. Read the following statements carefully and select the option that correctly identifies them as true (T) and false (F) ones.

(i) Aluminium is the hardest naturally occurring substance which is used for cutting glass and drilling.

- (ii) A graphite rod gets flattened while an iron box, being brittle breaks into pieces on hammering.
- (iii) Oxygen is more soluble in hot water than in cold water as the solubility of gases increases with increase in temperature.
- (iv) The surfaces of some metals like iron and copper get tarnished because oxygen and other gases present in air react with them.

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

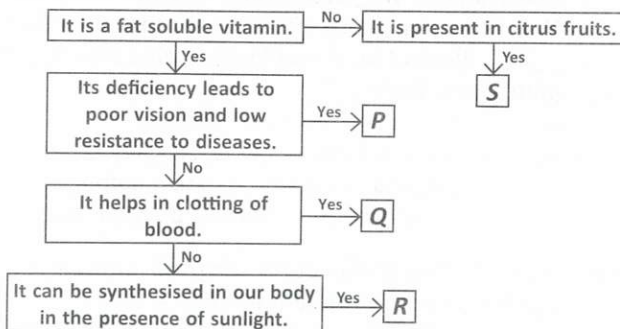
28. Rachita, a science teacher performed the experiment shown in the given figure to check the properties of two different materials.



Which of the following conclusions can be made on the basis of this experiment?

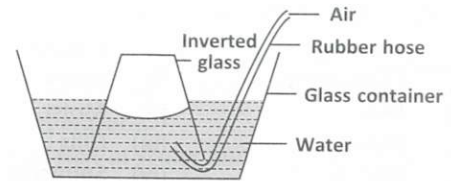
- A. Material I could be a frosted glass and material II could be a window pane.
- B. Material I could be a clear glass and material II could be a wooden board.
- C. Material I could be a metal sheet and material II could be a clear glass.
- D. Material I could be a window pane and material II could be a frosted glass.
29. Select the incorrect pair of opposite processes.
- A. Freezing - Melting
- B. Evaporation - Condensation
- C. Sublimation - Evaporation
- D. Expansion - Contraction

30. Refer to the given flow chart and select the option that correctly identifies vitamins P, Q, R and S.



| | P | Q | R | S |
|----|-----------|-----------|-----------|-----------|
| A. | Vitamin D | Vitamin E | Vitamin C | Vitamin B |
| B. | Vitamin C | Vitamin B | Vitamin A | Vitamin K |
| C. | Vitamin B | Vitamin D | Vitamin K | Vitamin A |
| D. | Vitamin A | Vitamin K | Vitamin D | Vitamin C |

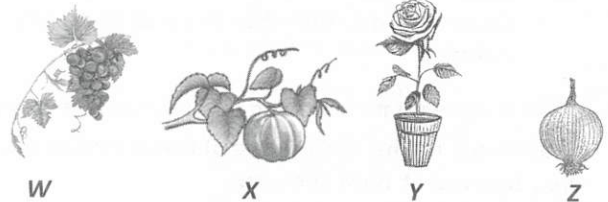
31. Refer to the given diagram.



What will happen if air is blown through the rubber hose into the inverted glass?

- A. The water level in the inverted glass will decrease.
- B. The water level in the inverted glass will increase.
- C. The water level in the glass container will decrease.
- D. There will be no change in the level of water in the glass container.

32. Identify plants W, X, Y and Z from the given figures and select the option that correctly identifies its characteristics.



- A. In W, leaves are modified to form a spring-like structures which coil around a support and help the plant to climb.
- B. X has weak stem that takes the support of surrounding structures such as trees, railings, walls, etc., to climb and stand upright.
- C. In Y, leaves are reduced to form hard and sharp spines, which help the plant to prevent water loss.
- D. In Z, stem is modified to form bulb that consists of large number of fleshy leaves, which store food.

33. Which of the following statements are true about acid rain?

- (i) Acid rain has harmful effects on the living beings.
- (ii) Acid rain mainly comprises of H_2SO_4 and HNO_3 .
- (iii) Acid rain causes damage to the ozone layer.
- (iv) Acid rain causes damage to buildings and monuments.

- A. (i) and (ii) only
- B. (ii) and (iii) only
- C. (i), (iii) and (iv) only
- D. (i), (ii) and (iv) only

34. Select the option that correctly completes the given analogies.

- (i) Energy giving food : Rice :: Body building food : X
- (ii) Animal fat : Butter :: Vegetable fat : Y
- (iii) Simple carbohydrate : Glucose :: Complex carbohydrate : Z
- | | X | Y | Z |
|----|---------|-------------|---------|
| A. | Sugar | Ghee | Lactose |
| B. | Egg | Coconut oil | Starch |
| C. | Spinach | Ghee | Starch |
| D. | Beans | Mustard oil | Sucrose |

| | X | Y |
|----|----------|----------|
| A. | Banana | Hibiscus |
| B. | Baobab | Neem |
| C. | Mango | Banana |
| D. | Hibiscus | Mango |

45. Read the given statements and select the option that correctly identifies them as true (T) and false (F) ones.

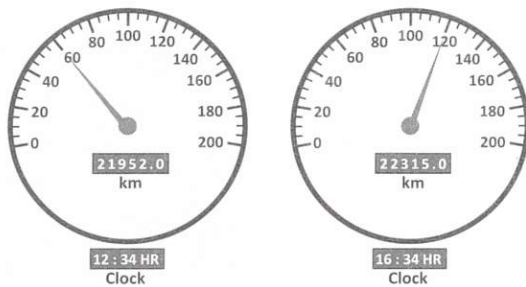
- I. Presence of complex carbohydrates in a food sample can be tested by using copper sulphate solution and caustic soda.

- II. Hyponatremia is caused by the deficiency of iron in diet.
 III. Unsaturated fats are liquid at room temperature whereas saturated fats are solid at room temperature.
 IV. Diet rich in fruits and vegetables helps to add bulk to the undigested food.

| | I | II | III | IV |
|----|---|----|-----|----|
| A. | F | T | F | F |
| B. | F | F | T | T |
| C. | T | F | T | F |
| D. | F | T | T | T |

ACHIEVERS SECTION

46. Odometer of a car measures the total distance travelled by the car. Riya looks at her odometer at two instances while driving as shown in the given figures.



The diameter of the wheels of the vehicle is 77 cm. What is the average number of revolutions completed by each wheel in 1 minute?

- A. 500
 B. 650
 C. 530
 D. 625

47. Read the given paragraph where few words have been italicised and select the correct option regarding them.

Air is present all around us. It is usually *translucent* and *odourless*. Air *contracts* on heating. We use *compressed* air for inflating tyres. Slow moving wind is called *breeze* and its speed is measured with the help of a device called *anemometer*.

- A. *Translucent* should not be changed as it is correctly mentioned whereas *odourless* should be changed to *aromatic*.
 B. *Contracts* should be changed to *expands* whereas *compressed* should not be changed as it is correctly mentioned.
 C. *Compressed* should be changed to *liquified* whereas *breeze* should be changed to *typhoon*.
 D. *Breeze* should be changed to *storm* whereas *anemometer* should be changed to *hygrometer*.

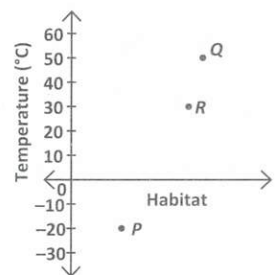
48. Refer to the given table showing nutrient deficiency symptoms of four students T, U, V and W. Identify the deficiency diseases and select the option suggesting the diet that they should consume.

| Student | Symptoms |
|-----------|---|
| Student T | Stunted growth, large pot-belly, mental retardation, swollen face |
| Student U | Nerve disorders and muscle weakness |
| Student V | Bleeding of gums, painful joints and muscles, poor skin health |
| Student W | Soft bones, bowed legs, bending of spine |

- A. Student T should consume protein rich foods such as meat, fish, eggs and legumes.
 B. Student W should consume foods rich in vitamin A such as fish liver oil, papaya, spinach and carrots.
 C. Student V should consume iron rich foods such as green leafy vegetables (spinach), dates, red meat and dry fruits.
 D. Student U should consume foods rich in vitamin C such as *amla*, guava, tomato and orange.

49. Refer to the given graph showing average temperature of three different habitats P, Q and R.

Identify the habitats P, Q and R and select the incorrect statement regarding the adaptations shown by the animals living there.



- A. Animals living at P may have small ears and tail to minimise heat loss whereas animals living at R may be able to show mimicry.
 B. Animals living at Q may hibernate or migrate during summers whereas animals living at P may aestivate during winters.
 C. Animals living at P may have a thick layer of fat under their skin whereas animals living at Q may excrete very little urine to reduce water loss from their body.
 D. Animals living at R may be able to camouflage whereas animals living at P may have padded feet for walking.

MATHS

LOGICAL REASONING

1. Find the missing number which will complete the given number series.

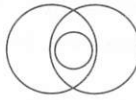
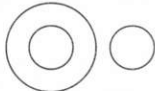
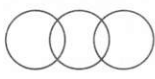
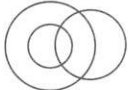
360, 72, 18, 6, ?

- A. 2
- B. 3
- C. 1
- D. 0

2. Mohan started walking straight facing West. After walking a distance of 16 m, he took a left turn. After walking 12 m, he took a left turn again and cover 8 m distance. Now, he took a right turn. Which direction is he facing now?

- A. North
- B. South-West
- C. North-East
- D. South

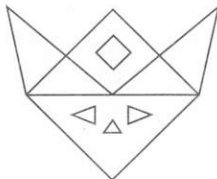
3. Which of the following Venn diagrams best represents the relationship amongst, "Mothers, Doctors and Females"?

- A. 
- B. 
- C. 
- D. 

4. Pointing towards Shreya, a girl said, "She is the only daughter-in-law of the father of my mother's only son." How is Shreya related to that girl?

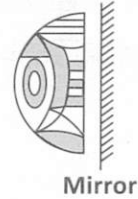
- A. Sister-in-law
- B. Daughter
- C. Wife
- D. None of these

5. Find the minimum number of straight lines required to draw the given figure.



- A. 18
- B. 19
- C. 20
- D. 22

6. Select the CORRECT mirror image of the given figure.



A.



B.



C.



D.



7. If 'F' means '+', 'S' means 'x', 'T' means '÷' and 'U' means '-', then the value of $870 T 30 S 2 U 50 F 8$ is _____.

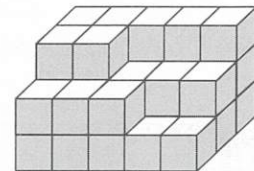
- A. 12
- B. 16
- C. 18
- D. 20

8. How many such odd numbers are there in the given sequence, each of which is not a prime number and is immediately followed by an even number?

1 4 2 6 9 2 8 3 1 7 8 5 7 1 9 6 5 2 6

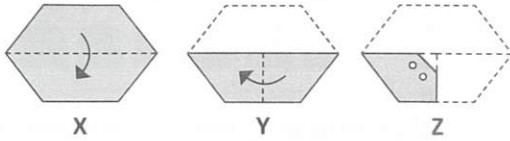
- A. Three
- B. Four
- C. Five
- D. None of these

9. Count the number of cubes in the given figure.



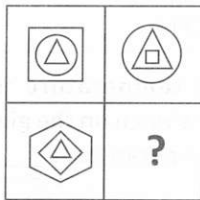
- A. 30
- B. 33
- C. 35
- D. 40

10. A set of three figures X, Y and Z shows a sequence of folding of a piece of paper. Fig. Z shows the manner in which the folded paper has been cut. Select a figure from the options which would most closely resemble the unfolded form of Fig. Z.



- A.
- B.
- C.
- D.

11. Select a figure from the options which will complete the given figure matrix.



- A.
- B.
- C.
- D.

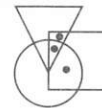
12. Select a figure from the options in which the given figure is exactly embedded as one of its parts.

- A.
- B.
- C.
- D.

13. In a certain code language, if CARBON is written as SADMOA, then how will OXYGEN be written in the same code language?

- A. ZXPOEH
- B. ZYPOEH
- C. ZXQMEF
- D. ZXPMEF

14. Which of the following options satisfies the same conditions of placement of dots as in the given figure?



- A.
- B.
- C.
- D.

15. What will be the smallest angle between the hour and minute hands of a clock when the time is 4:20?

- A. 10°
- B. 20°
- C. 18°
- D. 30°

MATHEMATICAL REASONING

16. What is the sum of the predecessor of the smallest positive integer and successor of the greatest negative integer?

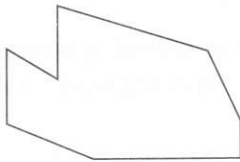
- A. -1
- B. 0
- C. -2
- D. 2

17. How many of the following letters have at least one pair of parallel lines?

TREAT

- A. 2
- B. 3
- C. 4
- D. 5

18. How many acute angles are there inside the given figure?



- A. 1
- B. 4
- C. 3
- D. 2

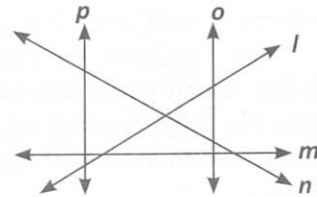
19. The co-prime numbers from the following pairs, are _____.

- A. 7 and 63
- B. 36 and 25
- C. 35 and 21
- D. 63 and 81

20. Which of the following figures do not have any line of symmetry?

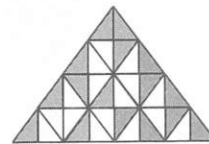
- A.
- B.
- C.
- D.

21. How many pairs of intersecting lines are there in the given figure?

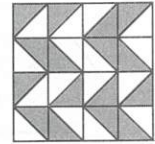


- A. 4
- B. 5
- C. 6
- D. More than 6

22. Which of the following is TRUE about the shaded fraction of the given figures?



X



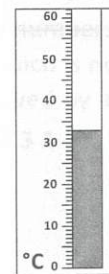
Y

- A. $X > Y$
- B. $X < Y$
- C. $X = Y$
- D. None of these

23. Which of the following options shows the number written in the International system of numeration?

- A. 54,68,391
- B. 98,520,003
- C. 5,75,31,820
- D. 530,91,712

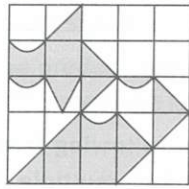
24. If the room temperature is 11°C less than the temperature shown on the given thermometer, then the room temperature is _____.



- A. 15°C
- B. 20°C
- C. 22°C
- D. 27°C

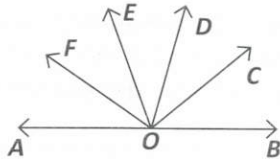
DIRECTIONS (25-26) : The given pictograph shows the favourite colour of school bags preferred by the students of a school. Study the pictograph carefully and answer the following questions.

33. Find the shaded decimal part of the given figure.



- A. 0.8
- B. 0.4
- C. 0.6
- D. 0.5

34. How many angles are formed above the line \overleftrightarrow{AB} ?



- A. 5
- B. 6
- C. 7
- D. More than 7

35. Which of the following gives the LEAST value?

- A. $\left(\frac{1}{5} + \frac{1}{8}\right) + \frac{1}{16}$
- B. $7\frac{2}{5} + \left(\frac{1}{4} + \frac{1}{2}\right)$
- C. $7\frac{1}{5} + 3\frac{2}{7} - 1\frac{1}{2}$
- D. $\left(\frac{1}{10} - \frac{2}{5}\right) + \frac{3}{7}$

EVERYDAY MATHEMATICS

36. For a competitive exam, the number of candidates applied in years 2021, 2022 and 2023 were 7,50,320; 4,23,190 and 5,80,121 respectively. How many more candidates applied in the years 2022 and 2023 together than in the year 2021?

- A. 3,52,991
- B. 2,60,180
- C. 2,52,991
- D. 4,23,181

37. A mountain peak has an elevation of 14,250 feet above sea level. A deep sea trench in an ocean has a depression of 12,351 feet below the sea level (in a straight line with mountain peak). Find the distance between these two points.

- A. 28,705 feet
- B. 22,610 feet
- C. 1,899 feet
- D. None of these

38. The wall of a room is in the form of a rectangle. Manisha wants to paint the wall with blue colour. The cost of painting the wall at the rate of ₹ 25 per square metre is ₹ 1050. If the length of wall is 7 m, then find its breadth.

- A. 12 m
- B. 4 m
- C. 6 m
- D. 11 m

39. Rajni spends $\frac{4}{15}$ of her monthly income on her children's education, $\frac{1}{5}$ on grocery, $\frac{1}{2}$ on

miscellaneous items and saves the rest. She saves ₹ 1800 in the end. What was her monthly income?

- A. ₹ 54,000
- B. ₹ 22,000
- C. ₹ 55,000
- D. ₹ 50,000

40. Two athletes participate in a race. A touches the start point in every 24 seconds and B touches it in every 32 seconds. If they start together, then after how much time will they next touch the point together?

- A. 96 seconds
- B. 60 seconds
- C. 72 seconds
- D. None of these

41. A water tanker with a capacity of 5325.25 L was full of water. If out of this tanker, 987.75 L and 1075.10 L were delivered to two restaurants, then how much water is left in the tanker?

- A. 4375.20 L
- B. 1986.40 L
- C. 2870.50 L
- D. 3262.40 L

42. 80 students of the same height, stand with both hands stretched all along the sides of a rectangular garden, each student covering a length of 1.75 m. Then the perimeter of the garden is _____.

- A. 1400 m
- B. 140 m
- C. 14 m
- D. 1400 km

43. Smriti is facing towards the North-West direction. She rotates $\frac{3}{4}$ of a revolution towards her right and then turn 180° in anti-clockwise direction. Find the smallest angle between the initial position and the final position.
- A. 45°
 B. 90°
 C. 270°
 D. 135°
44. Ruchi travelled 115 km 200 m distance by train, 2150 km 500 m distance by aeroplane and 75 km 350 m distance by car. How much less distance did she travel by train and car together than by aeroplane?

- A. 1959 km 950 m
 B. 1850 km 415 m
 C. 1760 km 750 m
 D. None of these

45. The population of two towns in a city are 75,391 and 97,815 respectively. Estimate the total population of both towns, when rounded off each number to nearest thousands place.
- A. 170000
 B. 174000
 C. 173000
 D. 180000

ACHIEVERS SECTION

46. Read the given statements carefully and select the CORRECT option.

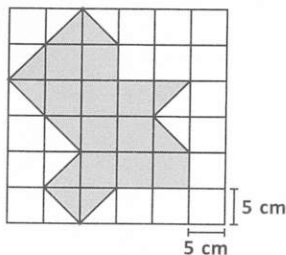
Statement-I : The number 280192 is exactly divisible by 8.

Statement-II : The number 295720 is exactly divisible by 2, 4, 5 and 10.

- A. Both Statement-I and Statement-II are true.
 B. Both Statement-I and Statement-II are false.
 C. Statement-I is true but Statement-II is false.
 D. Statement-I is false but Statement-II is true.

47. Solve the following and select the CORRECT option.

- (i) Find the difference between the area of shaded and unshaded part of the given figure.



- (ii) The breadth of a rectangle is 28 cm and the length is $2\frac{1}{2}$ times the breadth. If two squares of side 15 cm and 12 cm are cut from the rectangle, then find the area of remaining part of the rectangle.

- | | (i) | (ii) |
|----|--------------------|---------------------|
| A. | 125 cm^2 | 1615 cm^2 |
| B. | 150 cm^2 | 1390 cm^2 |
| C. | 200 cm^2 | 1615 cm^2 |
| D. | 150 cm^2 | 1591 cm^2 |

48. Read the given statements carefully and state T for true and F for false.

- (i) The number of line segments in the below figure is 5.



- (ii) The number of right angles formed when hour hand of a clock moves from 3 to 12, is 3.
 (iii) The smaller angle between the hour hand and the minute hand of a clock at 7:10 is an obtuse angle.

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

49. Fill in the blanks and select the CORRECT option.

- (i) In the word CREATIVE, the fraction of alphabets that are made up of only curved lines is _____.

- (ii) The value of $\left[2\frac{1}{5} - \left\{1\frac{2}{3} + \left(\frac{3}{4} - \frac{1}{2}\right)\right\}\right]$ is _____.

- (iii) The number of one-thirds that needs to be added to $3\frac{1}{3}$ to make 7 is _____.

- | | (i) | (ii) | (iii) |
|----|---------------|-----------------|-------|
| A. | $\frac{1}{8}$ | $\frac{19}{60}$ | 11 |
| B. | $\frac{3}{8}$ | $\frac{15}{28}$ | 10 |
| C. | $\frac{1}{8}$ | $\frac{17}{60}$ | 11 |
| D. | $\frac{3}{8}$ | $\frac{11}{30}$ | 12 |

❖ Do one page English and Hindi writing (date wise) in the same page.

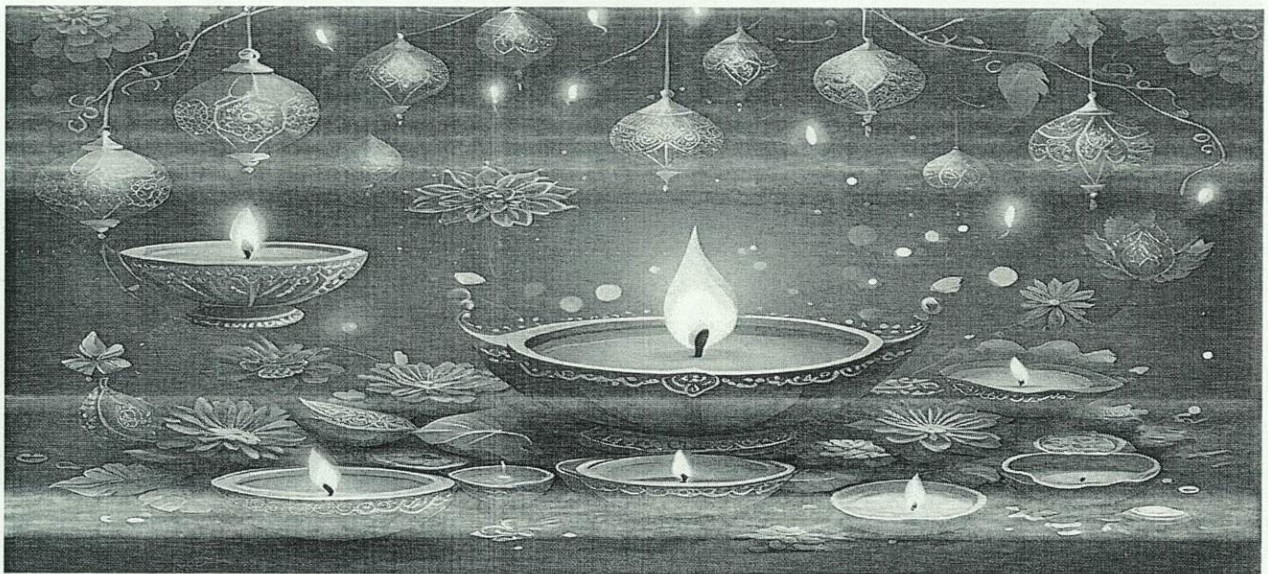
Note- All the works should be arranged in stick file.

DAY PUBLIC SCHOOL,

PATLIPUTRA COLONY, PATNA 13

DIWALI AND CHATTAH PUJA HOLIDAY

HOMEWORK



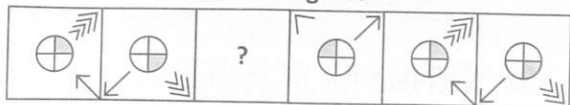
SUBJECT-SCIENCE & MATHS

CLASS-VII

LOGICAL REASONING

1. Select a figure from the options which will continue the same series as established by the Problem Figures.

Problem Figures



- A. B. C. D.

2. In a certain code language, if 'PIANO' is written as 'KRBML', then how will 'PRIME' be written in the same code language?

- A. TRKCK B. TRJGO
C. TRJCK D. TRJKC

3. Select the correct water image of the given combination of letters and numbers.

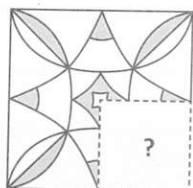
LP5T9S3R2

- A. $\Gamma B 2 L \partial 2 3 K 5$ B. $\zeta R E 2 Q T 2 9 L$
C. $2 R E S 6 T 5 4 T$ D. $L P 2 T \partial S E R 2$

4. Which of the following Venn diagrams best depicts the relationship amongst, "Females, Managers and Mothers"?

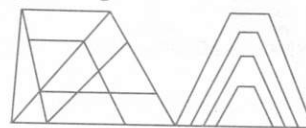
- A. B. C. D.

5. Select a figure from the options which will complete the pattern in the given figure.



- A. B. C. D.

6. Find the minimum number of straight lines required to draw the given figure.

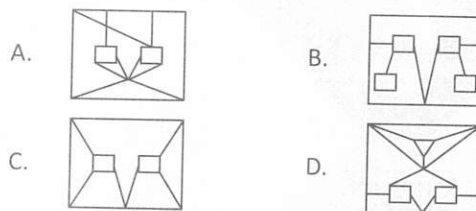


- A. 24 B. 23
C. 22 D. None of these

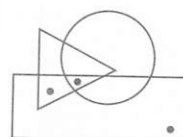
7. Garvit walks 25 m towards North, he then turns towards his right and walks 15 m. He again turns towards his right and walks 20 m. Finally, he takes a right turn and stopped after walking 5 m. How far and in which direction is he now from his starting point?

- A. $5\sqrt{5}$ m, South-East
B. 15 m, North-East
C. $5\sqrt{5}$ m, North-East
D. 15 m, South-East

8. Select a figure from the options in which the given figure is exactly embedded as one of its parts.



9. Which of the following options satisfies the same conditions of placement of the dots as in the given figure?



- A. B. C. D.

10. Pointing towards a lady, Rajvir said, "She is the daughter of father-in-law of my grandfather's only daughter-in-law." How is that lady related to Rajvir?

- A. Paternal aunt B. Maternal aunt
C. Sister-in-law D. Mother

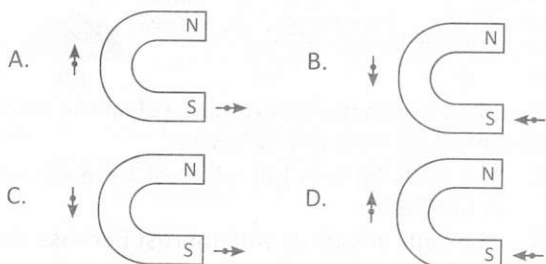
11. Jasmine enters her room and turns on the air conditioner. She stands in front of it and feels cold immediately. However, she realises that it takes some time for all the air in the room to cool down. Which one of the following options represents the transfer mechanisms by which Jasmine is feeling cold and the air in the room cooled down?

| Jasmine | Air in the room |
|---------------|-----------------|
| A. Convection | Convection |
| B. Conduction | Conduction |
| C. Conduction | Convection |
| D. Convection | Conduction |

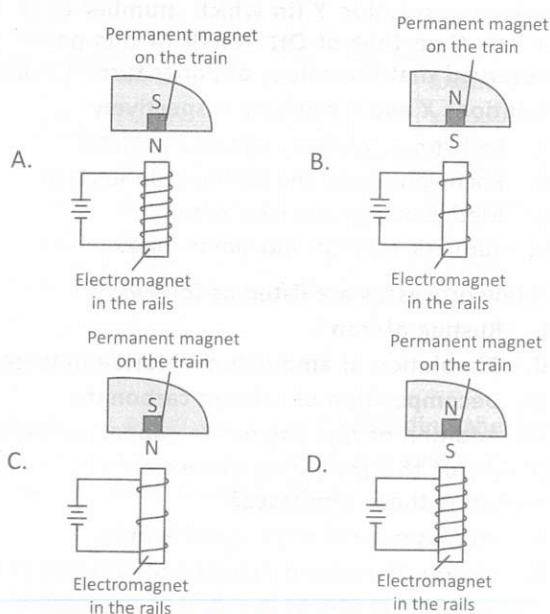
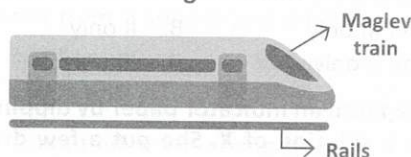
12. Anisha places a U-shape magnet on a horizontal surface. She then places two compasses next to it as shown in the given figure.



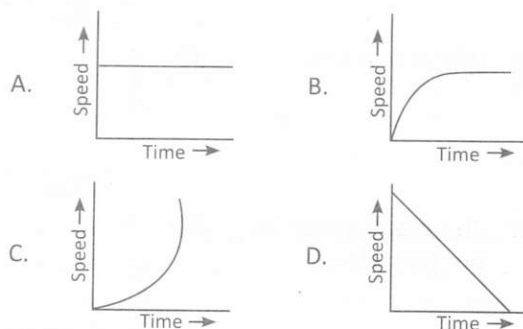
In which directions will the compasses point?



13. Which one of the following setups will produce the greatest lift in a Maglev train?



14. Sangeeta is standing in the balcony of a very tall building. She drops a small ball outside the building in the air. Which one of the following graphs best depicts the variation of speed of the ball in air with time?



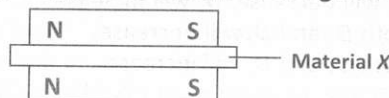
15. A magician performs a magic trick. He puts a solid sphere made up of a material X in a liquid Y and makes it disappear.

Which of the following statements are correct?

- (i) The refractive index of material X is greater than that of liquid Y.
- (ii) The refractive index of material X is smaller than that of liquid Y.
- (iii) Refractive indices of both material X and liquid Y are same.
- (iv) His magic trick is based only on the principle of reflection of light.
- (v) His magic trick is based on the principle of refraction of light.

- A. (i) and (v) only B. (ii) and (iv) only
C. (ii) and (iii) only D. (iii) and (v) only

16. Mia places a thin piece of material X between two strong magnets as shown in the given figure.

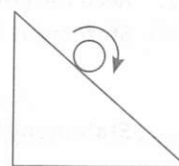


Among the given pool of materials which of the following have the possibility of being material X?

Gold, Aluminium, Plastic, Iron, Copper, Cobalt, Alnico, Paper, Leather and Tin.

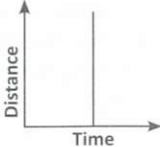
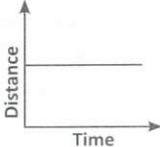
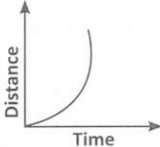
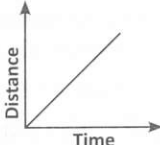
- A. Iron, Cobalt, Copper, Tin
B. Tin, Paper, Plastic, Leather
C. Iron, Alnico, Cobalt
D. Gold, Aluminium, Iron

17. A solid cylinder is rolling down on an inclined plane as shown in the given figure. Which one of the following options best represents the type of motion of the cylinder?



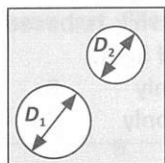
- A. Translatory only B. Linear only
C. Rotational and linear D. Periodic and rotational

18. Match column I with column II and select the correct option from the codes given below.

| Column I | Column II |
|--|---|
| (a) Object is moving with variable speed | (i)  |
| (b) Object is at rest | (ii)  |
| (c) The graph which is not possible | (iii)  |
| (d) Object is moving with constant speed | (iv)  |

- A. (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)
 B. (a)-(iii), (b)-(ii), (c)-(iv), (d)-(i)
 C. (a)-(iii), (b)-(ii), (c)-(i), (d)-(iv)
 D. (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)

19. Two holes of unequal diameters D_1 and D_2 ($D_1 > D_2$) are cut in a metal sheet. If the sheet is heated, then



- A. D_1 will increase, D_2 will decrease
 B. D_1 will decrease, D_2 will increase
 C. Both D_1 and D_2 will decrease
 D. Both D_1 and D_2 will increase.

20. Which of the following are real images?

- (i) Image formed by a plane mirror.
 (ii) Image formed by a concave mirror when object is placed at infinity.
 (iii) Image formed on a cinema screen.
 (iv) Image formed by a magnifying glass kept near the paper.
- A. (i) only B. (ii) and (iii) only
 C. (i), (ii) and (iii) only D. (ii), (iii) and (iv) only

21. Read the given statements and select the correct option.

Statement 1 : *Amla* and tamarind juice turn China rose indicator green and blue litmus red.

Statement 2 : *Amla* contains acetic acid while tamarind contains oxalic acid.

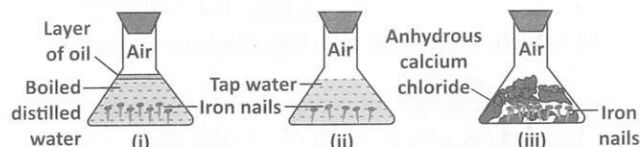
- A. Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.

- B. Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1.
 C. Statement 1 is true but statement 2 is false.
 D. Both statements 1 and 2 are false.

22. Ridhi took a silver spoon, a glass rod, a wooden spoon and a plastic spoon. She dipped one end of each item into boiling water for ten minutes and then touched the end extending outside the water. Based on this experiment, select the correct statement from the following.

- A. Only silver spoon becomes hot as metals are good conductors of heat.
 B. All the objects become hot, as all of these are good conductors of heat.
 C. Only glass rod and silver spoon become hot as both of these are good conductors of heat.
 D. Only plastic spoon and wooden spoon become hot as both of these are good conductors of heat.

23. Observe the given experimental setup carefully.



Based on the above experiment, select the incorrect statement(s) from the following.

- I. The nails in flask (iii) will rust because oxygen is available.
 II. The nails in flask (i) will not rust because oxygen is not available.
 III. The nails in flask (ii) will not rust as only water is available for rusting.
- A. I and III only B. II only
 C. I and II only D. III only

24. Riya prepared an indicator paper by dipping a paper strip in a solution of X. She put a few drops of an unknown solution Y (in which number of H^+ ions is less than that of OH^- ions) on this paper. She observed that the colour of paper turned yellow.

Solutions X and Y could be respectively

- A. Red litmus solution and tamarind juice
 B. Phenolphthalein and baking soda solution
 C. Methyl orange and lime water
 D. Turmeric solution and lemon juice.

25. A few processes are listed as follows:

- I. Rusting of iron
 II. Dissolution of ammonium chloride in water
 III. Decomposition of calcium carbonate
 IV. Addition of zinc powder to copper sulphate
- Which of the following statements is incorrect regarding these processes?

- A. Processes II and III are endothermic.
 B. Process III results in evolution of gas while process IV results in change in colour of the solution.

- C. Process IV is an example of decomposition reaction.
D. Process I is an exothermic reaction.

26. During the science activity, Ms. Geeta conducted the following experiments :

Experiment I : 10 g of finely powdered sugar was dissolved in 20 mL of water at 35 °C.

Experiment II : 20 g of finely powdered sugar was dissolved in 150 mL of water at 75 °C.

Experiment III : 30 g of finely powdered sugar was dissolved in 50 mL of water at 15 °C.

Experiment IV : 20 g of finely powdered sugar was dissolved in 50 mL of water at 10 °C.

In which experiment sugar took the shortest time to dissolve?

- A. Experiment III B. Experiment IV
C. Experiment II D. Experiment I

27. Select the incorrect statement(s) from the following.

I. The process of distillation is used to separate those solids from their mixtures which directly pass to vapour state without passing through the liquid state upon heating.

II. An alloy is a homogeneous mixture of two or more elements, at least one of which is a metal and the resulting material has metallic properties.

III. Winnowing is used to separate lighter components of a mixture from the heavier ones by using a magnet.

IV. Filtration is used for the separation of an insoluble solid from a solid-liquid mixture.

- A. I and IV only B. II only
C. I and III only D. II and IV only

28. Nidhi classified a few changes as :

| S. No. | Changes | Type |
|--------|----------------------|-------------|
| (i) | Melting of ice | Exothermic |
| (ii) | Evaporation of water | Endothermic |
| (iii) | Burning of carbon | Endothermic |
| (iv) | Slaking of lime | Exothermic |
| (v) | Photosynthesis | Endothermic |

Changes classified correctly are

- A. (iii) and (v) only B. (i), (ii) and (iv) only
C. (i) and (iii) only D. (ii), (iv) and (v) only.

29. Read the given statements regarding the feeding habits of organisms X and Y; and select the option that correctly identifies them.

X : It is a unicellular organism that engulfs the tiny particles of food by surrounding it with the help of pseudopodia.

Y : It is a multicellular organism which has numerous tentacles around its mouth which entangle small aquatic animals and kill them with its stinging cells.

| | X | Y |
|----|------------|------------|
| A. | Amoeba | Paramecium |
| B. | Earthworm | Hydra |
| C. | Amoeba | Hydra |
| D. | Paramecium | Amoeba |

30. During a group discussion in a class, four students gave statements regarding photosynthesis. Which among the following students gave the correct statement?

Student P : During photosynthesis, green plants convert solar energy into light energy.

Student Q : The range of photosynthetically active radiation lies between 400-700 nm.

Student R : At temperature above 25°C, the rate of photosynthesis decreases.

Student S : The rate of photosynthesis is maximum in red and blue-violet regions of the light spectrum.

- A. Students P and R only
B. Students Q and S only
C. Students Q and R only
D. Students P and S only

31. Which among the given letter groups upon unscrambling will give the name of a biennial plant?

- A. PNRUIT B. UDRSMT
C. ADYPD D. GMNAO

32. Read the given statements and select the option that correctly identifies them as true (T) and false (F) ones.

- (i) Decomposers are found on the forest floor.
(ii) Van Mahotsava is usually celebrated in the first week of July in India.
(iii) The emergent layer receives very little sunshine and thus the plants in this layer have larger leaves to absorb maximum sunlight.
(iv) Carnivores that eat herbivores are called primary consumers.

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

33. When a person exhales, what happens to the diaphragm and ribs?

| | Diaphragm | Ribs |
|----|-----------|--------------------------|
| A. | Relaxes | Move downward and inward |
| B. | Contracts | Move upward and outward |
| C. | Relaxes | Move upward and outward |
| D. | Contracts | Move downward and inward |

34. Refer to the names of food items given in the box.

1. Cooked rice 2. Potato 3. Salt 4. Wheat bread 5. Butter 6. Cheese 7. Popcorn 8. Egg

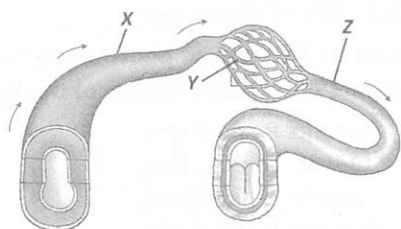
Which among them will give bluish-black colour on adding iodine solution?

- A. 1, 2, 4 and 7 only B. 3, 6 and 8 only
C. 4, 5 and 7 only D. 1, 2, 3 and 4 only

35. Identify the group that contains all monoecious plants and select the correct option.

- A. Maize, Coconut, Cucumber
B. Date palm, Papaya, Watermelon
C. Coconut, Papaya, Maize
D. Date palm, Cucumber, Pumpkin

36. Refer to the given figure of blood vessels. Identify X, Y and Z and select the incorrect statement regarding them.



- A. Blood flows through X under high pressure.
B. Y helps in the exchange of substances between blood and the body cells.
C. Z have thick elastic walls.
D. X is usually deeply seated.

37. Select the incorrect match.

- A. Fermentation – Occurs in the absence of oxygen and yields very little energy
B. Internal respiration – Exchange of gases between blood and body cells
C. Exhalation – Decrease in air pressure inside the lungs causes air to move out from the lungs
D. Stomata – Present on the surface of leaves and young stems

38. Read the following statements and select the correct option.

Statement 1 : Root hair helps in the absorption of water and mineral salts.

Statement 2 : Root hair decreases the surface area of the roots for the absorption of water and mineral salts.

- A. Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.
B. Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1.
C. Statement 1 is true but statement 2 is false.
D. Both statements 1 and 2 are false.

39. Read the given statements and select the option that correctly fills any two/three of the given blanks.

- (i) Pollination carried out with the help of snakes is called _____.
(ii) _____ constitutes the outermost floral whorl.
(iii) Fruits formed from the thalamus such as (p) are called (q) fruits.
(iv) Autogamy leads to self fertilisation and it always occurs in _____ flowers.
(v) The shoot-forming part of an embryonal axis is called _____.

- A. (i)-Chiropterophily, (iii)-(p)-Apple; (q)-False
B. (ii)-Sepal, (v)-Plumule
C. (i)-Ophiophily, (iv)-Unisexual
D. (ii)-Petal, (iii)-(p)-Banana; (q)-Parthenocarpic

40. Read the given paragraph and select the option that correctly fills the blanks (i) and (ii).

Translocation of food in plants takes place through the cells of (i). (i) has elongated cells called (ii) that are placed one above the other to form long tubes, through which food is transported.

- | | |
|-----------|-----------------|
| (i) | (ii) |
| A. Xylem | Vessels |
| B. Phloem | Stomata |
| C. Xylem | Vascular tissue |
| D. Phloem | Sieve tubes |

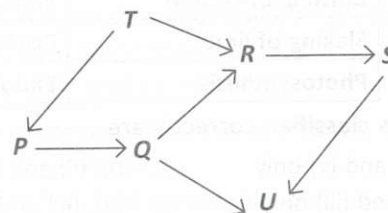
41. Which of the following animals is correctly categorised?

| Animal adapted to desert habitat | Animal adapted to polar habitat |
|----------------------------------|---------------------------------|
| A. Opossum | Gorilla |
| B. Kangaroo rat | Reindeer |
| C. Yak | Snail |
| D. Otter | Giraffe |

42. Select the pair of vitamins manufactured in the human body.

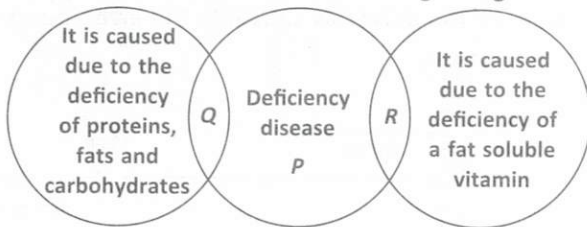
- A. Vitamin D and Vitamin K
B. Vitamin D and Vitamin C
C. Vitamin A and Vitamin K
D. Vitamin B₃ and Vitamin E

43. Refer to the given food web and select the correct statement regarding it.



- A. There are three secondary consumers and two producers in the given food web.
B. There are two omnivorous organisms in the given food web.
C. An increase in the population of U will result in decrease in the population of both Q and S.
D. All of these

44. Identify *P*, *Q*, and *R* in the given Venn diagram and select the incorrect statement regarding them.



- A. *P* could be a disease like anaemia or scurvy.
 B. The symptoms of *R* could be nerve disorders and muscle weakness.
 C. The symptoms of *Q* could be weight loss, dehydration, dry skin, etc.
 D. *R* could be a disease like beriberi or pellagra.

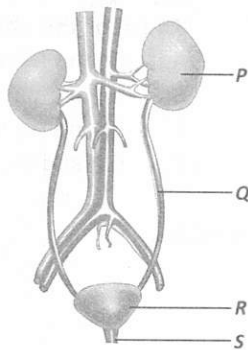
45. Read the given passage and select the option that correctly fill up the blanks (i)-(iv).

Decomposers play an important role in (i) of nutrients. Bacteria and (ii) are the examples of decomposers that break down the dead remains of plants and animals. Through this process, nutrients are released into the (iii) from where they are absorbed by the (iv) of the plants.

- | | | | | |
|----|---------------|---------|-------|-------|
| | (i) | (ii) | (iii) | (iv) |
| A. | Reuse | Viruses | Air | Stem |
| B. | Recycling | Fungi | Air | Stem |
| C. | Decomposition | Viruses | Soil | Roots |
| D. | Recycling | Fungi | Soil | Roots |

ACHIEVERS SECTION

46. Identify *P-S* in the given figure and select the option that identifies the correct statements (i)-(v) regarding them.



- (i) *P* is present in the abdominal cavity just below the diaphragm.
 (ii) In humans, *P* and *R* are made up of tiny filtering units called nephrons.
 (iii) *Q* is a narrow, muscular, tubular structure that conducts urine from *P* to *R*.
 (iv) Mesh of capillaries present in *R* helps to filter out excess water and salt from urine.
 (v) *S* is situated in the pelvic region and helps to store the urine temporarily.
- A. (i), (ii) and (iv) only
 B. (ii), (iii), (iv) and (v) only
 C. (i) and (iii) only
 D. (i), (iv) and (v) only

- A. *P* could be ginger whereas *S* could be bread mould.
 B. *Q* could be *Spirogyra* whereas *R* could be yeast.
 C. *R* could be *Vallisneria* whereas *S* could be *Bryophyllum*.
 D. *S* could be fern whereas *P* could be *Bougainvillea*.

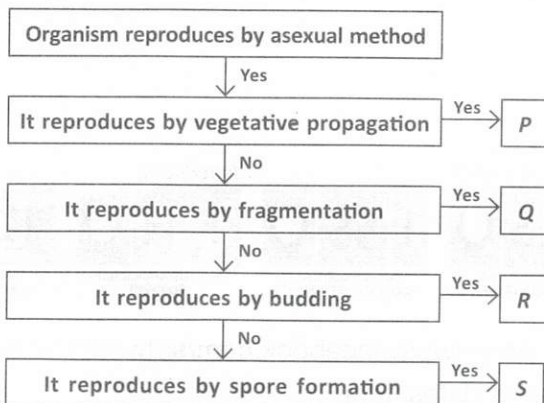
48. Ananya, a class 7 student studied the nature of a few common substances with the help of acid-base indicators. Her observations are summarised in the given table with a few blank spaces.

| Substance | Indicators | | | |
|------------|-----------------|-------------------|------------|---------------|
| | Phenolphthalein | Turmeric solution | China rose | Methyl orange |
| (i) | Colourless | (ii) | Magenta | Red |
| Lime water | (iii) | (iv) | Green | Yellow |
| (v) | Colourless | No change | (vi) | No change |
| (vii) | Pink | Reddish brown | (viii) | Yellow |

Based on the above table, select the correct statements from the following.

- I. (i) can be calamine solution or sugar solution as their pH > 7, while (ii) can be yellow colour.
 II. (iii) and (iv) represent pink and reddish brown colours respectively.
 III. (v) can be common salt solution and (vi) represents green colour.
 IV. (vii) can be soap solution and (viii) represents green colour.
 V. (iii) represents pink colour while (v) can be an aerated drink as its pH < 7.
- A. I and V only
 B. II and IV only
 C. I, III and V only
 D. II, III and IV only

47. Study the given flow chart carefully.



Identify *P-S* and select the incorrect statement regarding them.

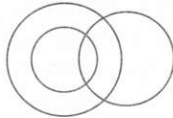
MATHS

LOGICAL REASONING

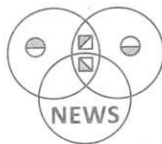
1. Find the missing number which will complete the given number series.

5, 6, 19, 96, 673, ?

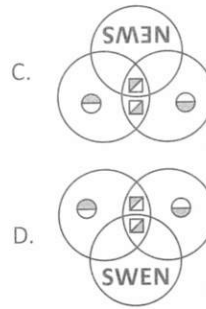
- A. 6920
 B. 6736
 C. 5864
 D. 6058
2. If in a certain code language, 'DETAIL' is written as 'FHVDKO' and 'REDUCE' is written as 'THFXEH', then how will 'MODERN' be written in the same code language?
- A. OQFGTP
 B. ORFHTQ
 C. ORFUGQ
 D. OQEHTQ
3. During a conversation with a girl, Deepika said, "Your mother is the mother-in-law of my only son's wife." How is that girl related to Deepika?
- A. Mother
 B. Daughter
 C. Mother-in-law
 D. Daughter-in-law
4. Which of the following classes shows the relationship represented by the given Venn diagram?



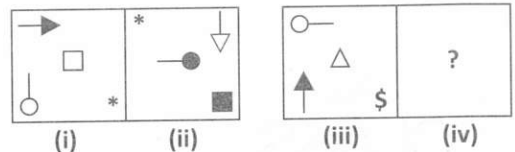
- A. Polygons, Triangles and Squares
 B. Women, Mothers and Teachers
 C. Stars, Moon and Mars
 D. None of these
5. Select the correct water image of the given figure.



- A.
 B.



6. There is a certain relationship between figures (i) and (ii). Establish the similar relationship between figures (iii) and (iv) by selecting a suitable figure from the options which will replace the (?) in Fig. (iv).



- A.
 B.
 C.
 D.

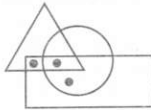
7. Two different positions of a dice are shown below. What is the sum of numbers opposite to the numbers 5 and 1?



- A. 8
 B. 5
 C. 9
 D. 10
8. Vinayak is facing towards South. He turns 90° clockwise and starts walking, then he takes two consecutive left turns followed by a right turn. In which direction is he facing now?
- A. South
 B. West
 C. East
 D. North

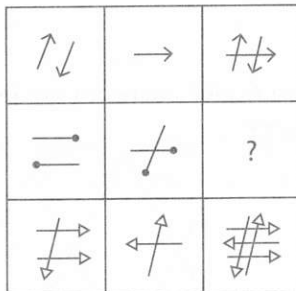
9. If the numbers '7' and '4' and signs '÷' and '×' are interchanged in each of the given options, then which of the following becomes correct?
- A. $4 \div 8 - 24 \times 7 = 50$
 B. $7 \times 24 - 8 \div 4 = 40$
 C. $7 \div 8 - 24 \times 4 = 28$
 D. $4 \times 8 - 24 \div 7 = 32$

10. Which of the following options satisfies the same conditions of placement of dots as in the given figure?



- A.
- B.
- C.
- D.

11. Which of the following options will complete the given figure matrix?



- A.
- B.
- C.
- D.

12. Some letters are given which are numbered as 1, 2, 3, 4, 5 and 6. Select the combination of numbers from the options, so that the letters are arranged accordingly to form a meaningful English word.

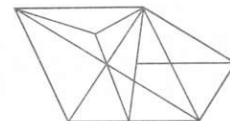
L S D U O H
 1 2 3 4 5 6

- A. 2, 6, 5, 4, 1, 3
 B. 2, 6, 5, 4, 3, 1
 C. 4, 1, 3, 2, 6, 5
 D. 1, 5, 6, 3, 4, 2
13. If 7th February of a particular non-leap year is Sunday, then what day will it be on 1st March of that year?
- A. Sunday
 B. Saturday
 C. Monday
 D. Friday
14. Select a figure from the options in which the given figure is exactly embedded as one of its parts.



- A.
- B.
- C.
- D.

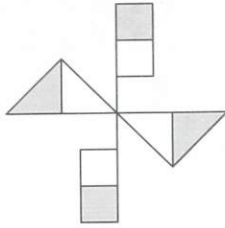
15. Find the minimum number of straight lines required to draw the given figure.



- A. 11
 B. 13
 C. 15
 D. More than 15

MATHEMATICAL REASONING

16. What is the order of rotational symmetry of the given figure?

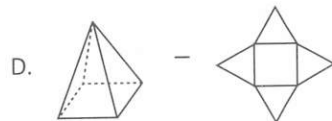
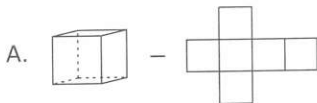


- A. 1
B. 2
C. 3
D. 4

17. Which of the following options gives the least value?

- A. $250 - 120 + 35$
B. $-189 + 175 - 210$
C. $750 - 890 + 60$
D. $200 + 119 - 480$

18. Select the INCORRECT match.



19. If $2x492y18$ is divisible by 3, then $x + y$ can take which of the given value?

- A. 13
B. 10
C. 1
D. All of these

20. Simplify : $5\frac{3}{7} + 2\frac{1}{3} - 3\frac{1}{9} + 1\frac{5}{7} - 4\frac{2}{3}$

- A. $\frac{44}{57}$
B. $\frac{107}{63}$

- C. $\frac{44}{63}$
D. $\frac{43}{57}$

21. The given table shows the number of bananas donated to children by an NGO on each of the given six days.

| Days | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------|----|----|----|-----|-----|----|
| Number of bananas | 75 | 60 | 98 | 120 | 150 | 79 |

Find the average number of bananas donated each day.

- A. 92
B. 90
C. 89
D. 97

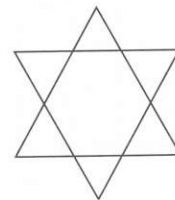
22. A number is tripled and 8 is added. If the result is doubled it becomes 94. What is the number?

- A. 13
B. 23
C. 9
D. 11

23. Find the value of x , if $\left(\frac{7}{5}\right)^{2x+1} \times \left(\frac{7}{5}\right)^5 = \left(\frac{5}{7}\right)^{x+3}$.

- A. 3
B. 0
C. 2
D. -3

24. How many angles measures are less than 90° in the given figure?

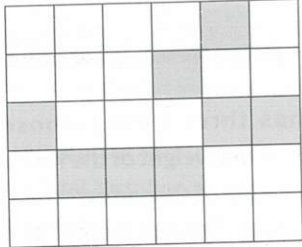


- A. 10
B. 8
C. 12
D. More than 12

25. Find the value of $4a^3b^2 + 7a - 8b^2 + 2ab^3$, if $a = 5$ and $b = -1$.

- A. 715
B. 517
C. 359
D. None of these

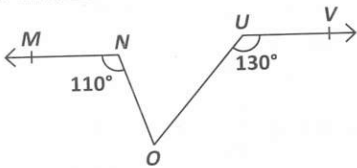
26. Compare and fill the box using '<', '>' or '='.
 Successor of $(-23 + 50 - 169 + 34)$ Predecessor of $(58 - 250 + 162 - 178)$
- A. >
 B. <
 C. =
 D. Can't be determined



27. The choice of favourite fruits of 50 students in a class are as follows.
 A, O, B, A, M, K, O, A, K, P, O, A, G, O, B, K, B, O, K, O, M, B, O, A, G, K, M, M, O, K, A, B, M, O, K, O, A, O, B, K, O, K, M, A, M, P, B, A, O, M
- Here, the letters stands for following fruits :
 A-apple, O-orange, B-banana, M-mango, K-kiwi, P-pineapple and G-grapes. What is the tally marks for the number of students whose favourite fruits are apple and orange respectively?
- A. and
 B. and
 C. and
 D. and

- A. 5
 B. 8
 C. 6
 D. 10

28. In the given figure (not drawn to scale), if MN is parallel to UV , then find $\angle NOU$.



- A. 50°
 B. 120°
 C. 60°
 D. 80°
29. If one angle of a triangle is greater than the other two angles by 60° each, then the angles of the triangle are _____.
- A. $30^\circ, 30^\circ, 90^\circ$
 B. $45^\circ, 45^\circ, 90^\circ$
 C. $50^\circ, 50^\circ, 80^\circ$
 D. $40^\circ, 40^\circ, 100^\circ$

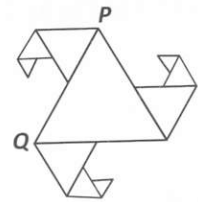
32. Which of the following is a pair of twin primes between 60 and 80?
 A. 71, 73
 B. 61, 63
 C. 77, 79
 D. 69, 71

33. The median of the data given below is _____.
 77, 90, 58, 37, 82, 65, 68, 70, 40
- A. 77
 B. 68
 C. 82
 D. 70

34. What should be added to $(\frac{1}{3} \text{ of } 3\frac{2}{5})$ to get $(\frac{3}{4} \text{ of } 2\frac{5}{6})$?
- A. $\frac{34}{120}$
 B. $\frac{7}{120}$
 C. $\frac{1}{120}$
 D. $\frac{119}{120}$

30. How much the value of $374.131 + 109.15$ is more than 205.08?
- A. 315.290
 B. 285.102
 C. 278.201
 D. None of these

35. In the given figure (not drawn to scale), all triangles are equilateral and $PQ = 12$ units. Other triangles have been formed by taking the mid points of the sides. What is the perimeter of the given figure?



31. The given figure is made up of small identical squares. How many more squares must be shaded to show 60% of the whole figure shaded?

- A. 62.3 units
 B. 64.5 units
 C. 65.8 units
 D. 67.5 units

36. Kartik has three boxes whose total weight is 218.25 kg. If the weight of the first box is 30.20 kg more than the weight of second box and the third box weighs 48.55 kg, then find the weight of the second box.
- A. 75.25 kg
 B. 65.25 kg
 C. 69.75 kg
 D. 70.50 kg
-
37. In an examination, out of the total number of students appeared, 35% of the students failed. If number of passed students is 540 more than the number of failed students, then how many total students appeared in the examination?
- A. 1750
 B. 1800
 C. 1500
 D. 1600
-
38. There are some lotus flowers in a pond and some bees are hovering around. If one bee lands on each flower, one bee will be left. If two bees land on each flower, one flower will be left. Then, the number of flowers and bees respectively are _____.
- A. 3, 4
 B. 4, 3
 C. 2, 3
 D. 3, 2
-
39. A sum of ₹ 6000 was lent partly at 3% p.a. and partly at 5% p.a. simple interest. If total interest received after 1 year was ₹ 220, then what amount was lent at 3%?
- A. ₹ 3000
 B. ₹ 4500
 C. ₹ 4000
 D. ₹ 2000
-
40. The weights of five children of a group are 25 kg, 20 kg, 18 kg, 22 kg and 20 kg. Find the average weight of them.
- A. 20 kg
 B. 22 kg
 C. 21 kg
 D. None of these
-
41. An aeroplane is flying at the height of 2750 m above the water surface. At a particular point it is exactly above a whale 320 m below the water surface. What is the distance between the aeroplane and the whale?
- A. 3150 m
 B. 3350 m
 C. 3070 m
 D. 3630 m
-
42. The perimeter of a rectangular field is 1.6×10^5 m and length is 0.6×10^5 m. Find the area of the field in standard form.
- A. (1.2×10^9) sq. m
 B. (1.2×10^8) sq. m
 C. (12×10^{10}) sq. m
 D. None of these
-
43. In a school, there are two sections of class VII— Section P and Section Q. In section P, there are 30 students, out of which 21 passed with first division and in section Q, there are 50 students out of which 42 passed with first division. In which section, the smaller fraction of students were passed with first division and by how much?
- A. Section P; $\frac{7}{50}$
 B. Section Q; $\frac{7}{50}$
 C. Section P; $\frac{1}{50}$
 D. Section Q; $\frac{1}{50}$
-
44. A piece of wire is bent in the shape of an equilateral triangle each of its sides is 8.8 cm. If it is re-bent to form a circular ring, then what is the diameter of the ring so formed?
- A. 4.2 cm
 B. 8 cm
 C. 8.4 cm
 D. 6.4 cm
-
45. Mohit distributed a certain amount amongst Rohit, Amit and Kunal. Rohit gets $\frac{3}{16}$ of the whole amount and Amit gets $\frac{1}{4}$ of the whole amount. If Kunal gets ₹ 900, then how much amount Amit gets?
- A. ₹ 950
 B. ₹ 400
 C. ₹ 700
 D. ₹ 650

ACHIEVERS SECTION

46. Read the given statements carefully and select the correct option.

Statement-I : The cost price of a mobile phone is ₹ 35000. If the shopkeeper earns a profit of 5% on it, then the total selling price of two such mobile phones is ₹ 73500.

Statement-II : If $48\% \text{ of } X + 20\% \text{ of } (500 + X) = 1120$, then $X = 1200$.

- A. Both Statement-I and Statement-II are true.
 B. Both Statement-I and Statement-II are false.
 C. Statement-I is true but Statement-II is false.
 D. Statement-I is false but Statement-II is true.

47. Fill in the blanks and select the correct option.

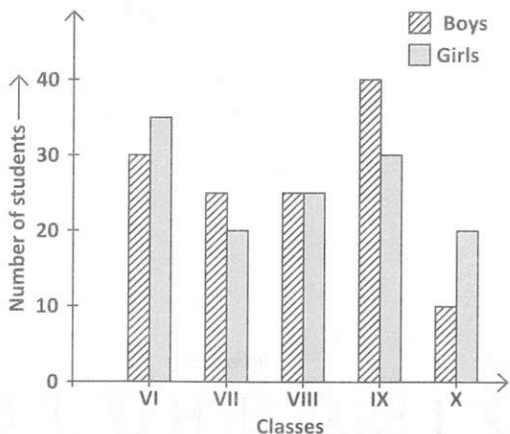
(i) The value of $25 - 3 \{7 - (8 - 5)\} + \{(-4) \times (-7 + 3) \times (-1)\}$ is _____.

(ii) The number of integers lying between -5 and 5 is _____.

(iii) The sign of product of 100 non-zero negative integers is always _____.

- | | (i) | (ii) | (iii) |
|----|-----|-------|----------|
| A. | -3 | seven | negative |
| B. | 3 | six | positive |
| C. | -3 | nine | positive |
| D. | 4 | seven | negative |

48. The given double bar graph shows the number of boys and girls from different classes who participated in school sports activities. Study the given graph carefully and answer the following questions.



- (i) Find the ratio of total number of boys participated to the total number of girls participated from all the given classes.

- (ii) Find the average number of students who participated in the sports activities.

- | | (i) | (ii) |
|----|-------|------|
| A. | 2 : 1 | 65 |
| B. | 1 : 1 | 52 |
| C. | 1 : 3 | 70 |
| D. | 2 : 1 | 52 |

49. Read the given statements carefully and state 'T' for true and 'F' for false.

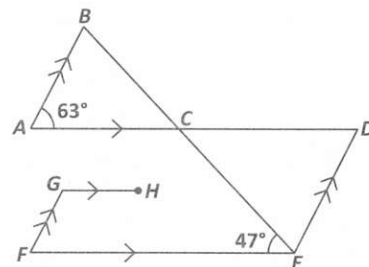
(i) The order of rotational symmetry of an equilateral triangle is 3.

(ii) The angle of rotation of a regular pentagon is 75° .

(iii) The sum of number of lines of symmetry and order of rotational symmetry of a square is 8.

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

50. Observe the given figure and fill in the blanks.



- (i) The measure of $\angle BCD =$ _____
 (ii) The measure of $\angle BED =$ _____
 (iii) The sum of measures of $\angle GFE$ and $\angle CDE =$ _____

- | | (i) | (ii) | (iii) |
|----|-------------|------------|-------------|
| A. | 60° | 63° | 120° |
| B. | 133° | 70° | 126° |
| C. | 70° | 43° | 73° |
| D. | 133° | 47° | 150° |

SPACE FOR ROUGH WORK

❖ Do one page English and Hindi writing (date wise) in the same page.

Note- All the works should be arranged in stick file.
