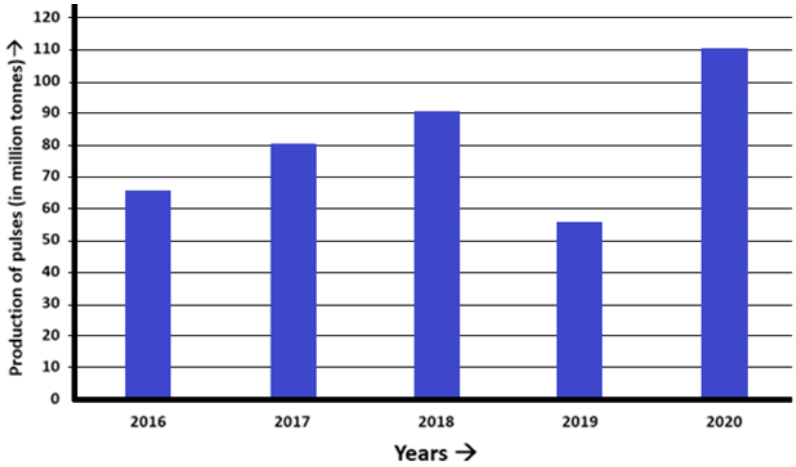
IMPORTANT INSTRUCTIONS

- The maximum marks are 300. Time allotted is **90 MINUTES.**
- There are five sections in the question paper having total **75 questions:**
  - Section – A : Maths (20 Questions)
  - Section – B : Science (20 Questions)
  - Section – C : English (15 Questions)
  - Section – D : Aptitude (10 Questions)
  - Section – E : General Knowledge (10 Questions)
- Each question carries **4 marks.**
- **Negative Marking : ¼ (One-fourth) mark** will be deducted for every incorrect answer.
- **Use only BLUE / BLACK ball pen to fill the circles in bubble sheet.**
- Use of PENCIL is strictly **not allowed.**
- **Use of smarker and correction pen is strictly prohibited.**

SECTION – A
MATHS

Choose the correct option.

1) Read the bar graph given and answer the following questions



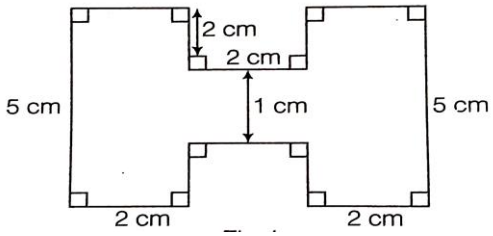
i) What is the ratio of the production of pulses in 2016 to that in 2019?

ii) Find the difference between the production of pulses (in million tonnes) in the year 2017 and 2020

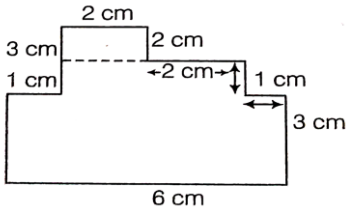
	i)	ii)		i)	ii)
a)	13 : 11	30	b)	13 : 11	40
c)	12 : 11	30	d)	11 : 13	30

2) Sanjay was asked to colour the boundary of the figures given below with a black sketch pen. In which figure he needs to colour the boundary more ?

a) Fig. 2, 30
b) Fig. 1, 23
c) Fig. 1, 30
d) Fig. 2, 23

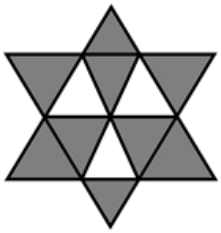


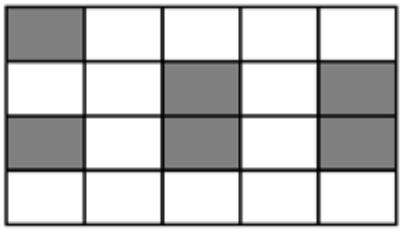
(Fig. 1)

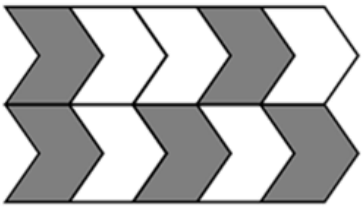


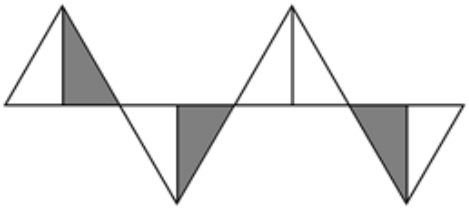
(Fig. 2)

3) Arrange the unshaded fractions of the following figures in descending order.

P 

Q 

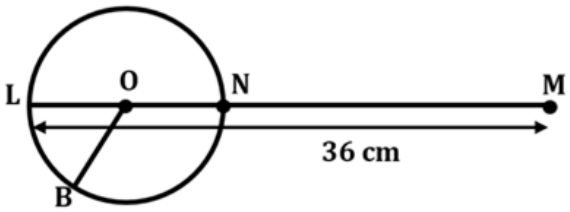
R 

S 

a) P, Q, R, S
b) Q, P, S, R
c) Q, S, R, P
d) P, R, S, Q

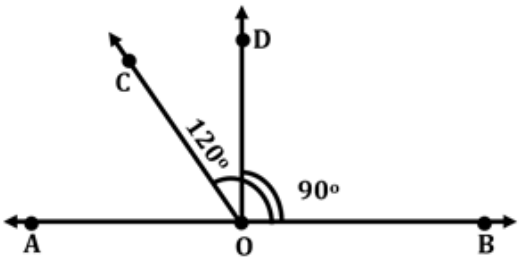
4) In the given figure, LN = $\frac{1}{3}$ LM. Find the length of OB, if O is the centre of the circle

a) 12 cm
b) 9 cm
c) 18 cm
d) 6 cm



5) In the given figure, if ∠COB = 120°, then what is the measure of ∠COD?

a) 20°
b) 30°
c) 60°
d) 40°

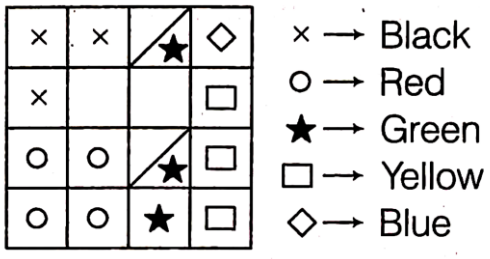


6) Read the given statements carefully and state "T" for true and "F" for false.

i) A square and a rectangle have the same number of lines of symmetry.
ii) When a figure comes back to the its original shape only after one complete rotation through 360°, it means it has no rotational symmetry.
iii) Some shapes have equal number of line of symmetry and order of rotational symmetry.

	i)	ii)	iii)		i)	ii)	iii)
a)	F	T	T	b)	T	F	T
c)	T	T	T	d)	F	F	T

7) Given figure shows the different colours filled in the squares. Match the fractions accordingly.



	Column – A		Column – B	
(I)	Red	(1)	$\frac{1}{8}$	
(II)	Green	(2)	$\frac{1}{16}$	
(III)	Blue	(3)	$\frac{1}{4}$	

	(I)	(II)	(III)		(I)	(II)	(III)
a)	(1)	(2)	(3)	b)	(3)	(1)	(2)
c)	(1)	(3)	(2)	d)	(2)	(1)	(1)

8) Simplify : $3\frac{2}{5} - 1\frac{1}{3} - 2\frac{1}{5} + 1\frac{1}{6} - \frac{4}{5}$

a) $\frac{11}{30}$ b) $\frac{4}{15}$

c) $\frac{7}{30}$ d) $\frac{1}{5}$

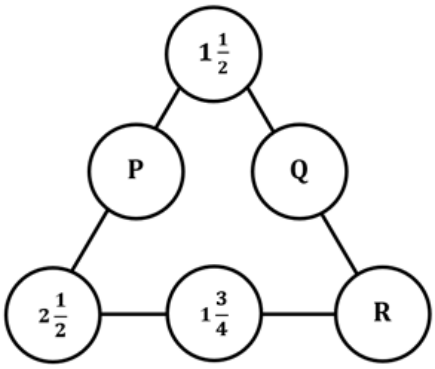
9) Find the value of P + Q – R, so that the sum of fractions on each side of the triangle is 5.

a) $3\frac{1}{2}$

b) $1\frac{1}{4}$

c) 2

d) 3



10) Read the given statements carefully and select the correct option.

Statement -I In the given figure, the number of obtuse angles is 4.

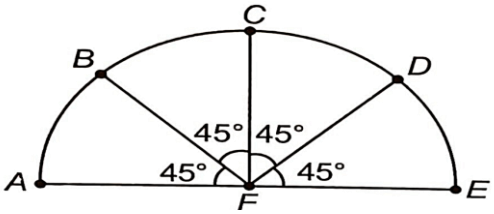
Statement-II If the angle between two intersecting lines is a right angle, then the lines are perpendicular.

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.



11) 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) 1740000

c) 173000 d) 180000

12) The temperature of a city was $-4°C$ at 6 a.m. and it rises by 2°C every hour. At what time was the temperature becomes 6° C?

a) 11 p.m. b) 11 a.m.

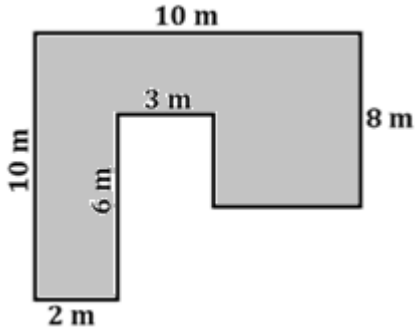
c) 1 a.m. d) 1 p.m.

13) Which of the following gives the LEAST value?

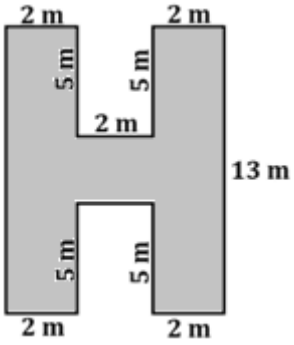
a) $\left(\frac{1}{5}+\frac{1}{8}\right)+\frac{1}{16}$ b) $7\frac{2}{5}+\left(\frac{1}{4}+\frac{1}{2}\right)$

c) $7\frac{1}{5}+3\frac{2}{7}-1\frac{1}{2}$ d) $\left(\frac{1}{10}-\frac{2}{5}\right)+\frac{3}{7}$

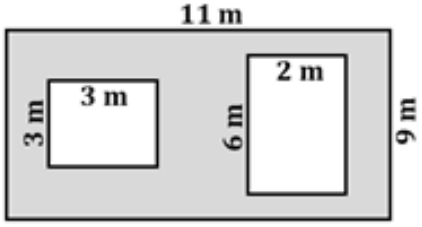
14) Arrange the following figures (not drawn to scale) in ascending order according to their shaded areas?



P



Q



R

a) R, Q, P b) Q, P, R

c) P, Q, R d) R, P, Q

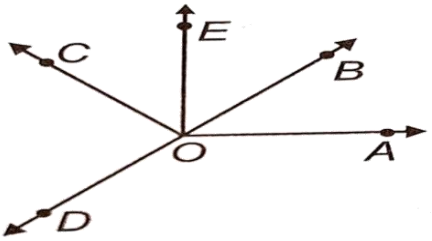
15) If is an operation on integers such that for integers x and y, $x \triangle y = y - x - (-4)$, then find the value of $(-6) \triangle 8$

a) 18 b) 10

c) 6 d) −18

16) Study the given figure carefully and match the following

	Column – I		**Column – II**
P)	∠AOB	I)	Straight angle
Q)	∠AOE	II)	Acute angle
R)	∠AOC	III)	Right angle
S)	∠BOD	IV)	Obtuse angle



a) P) → I); Q) → IV); R) → II); S) → III) b) P) → II); Q) → I); R) → III); S) → IV)

c) P) → II); Q) → III); R) → IV); S) → I) d) P) → I); Q) → II); R) → III); S) → IV)

17) Arrange the following steps to construction of rectangular ABCD in which side AB = 4cm and diagonal AC = 5cm and select the correct option

Step 1 – Draw the base AB length 4cm.

Step 2 – Using a ruler, take the distance of 5 cm in a compass and from point A, make an arc cutting the lines m at C. Join AC

Step 3 – Construct perpendicular to AB and BC at points A and C respectively. The point where these perpendiculars intersect is the fourth point D.

Step 4 – Draw a perpendicular to line AB at the point B. Let us name this line as m.

a) $1 \rightarrow 4 \rightarrow 2 \rightarrow 3$ b) $1 \rightarrow 3 \rightarrow 2 \rightarrow 4$

c) $1 \rightarrow 2 \rightarrow 3 \rightarrow 4$ d) $2 \rightarrow 1 \rightarrow 3 \rightarrow 4$

18) If $\frac{12}{18} = \frac{x+7}{39} = \frac{42}{y+32}$, then the value of $x + y$ is

a) 18 b) 12

c) 50 d) 31

19) Rahul walks thrice around a square field of side 36 m. Monika walks twice around a rectangular field of length 30 m and breadth 16 m. Who covers more distance and by how much?

a) Monika, 148 m b) Rahul, 148 m

c) Monika, 248 m d) Rahul, 248 m

20) Match the following and select the correct option.

	Column - I		**Column - II**
I)	The number 40, 112 and 120 are divisible by	P)	Both 2 and 5 but not by 4
II)	The numbers 220, 360 and 180 are divisible by	Q)	5 but neither by 2 nor by 10
III)	The numbers 120, 230 and 340 are divisible by	R)	Both 4 and 10 but not by 8
IV)	The numbers 130, 160 and 165 are divisible by	S)	8 but not by 5

	I)	**II)**	**III)**	**IV)**		**I)**	**II)**	**III)**	**IV)**
a)	(S)	(Q)	(P)	(R)	b)	(P)	(Q)	(R)	(S)
c)	(S)	(R)	(Q)	(P)	d)	(S)	(R)	(P)	(Q)

SECTION – B
SCIENCE

Choose the correct option.

21) An astronaut on the Moon drops a hammer and a feather at the same time. Both reach the ground together. This happens because:

a) The Moon has no atmosphere

b) Hammer is lighter in space

c) Moon's gravity does not act on light objects

d) The feather becomes heavier on the Moon

22) Four students made predictions about a magnet cut into two halves:

Student I : It will lose magnetism.
Student II : Each piece will have a north and south pole.
Student III : One piece will have only north, the other only south pole.
Student IV : Magnetism will shift to one half only.
Who is correct?

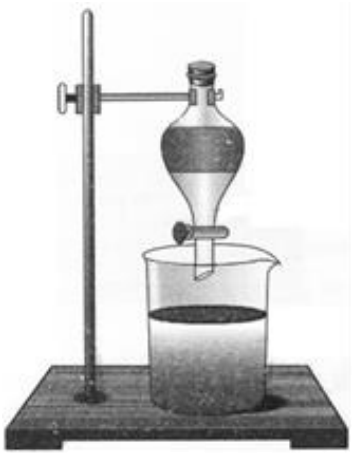
a) I b) II

c) III d) IV

23) A student pours a mixture of oil, water, and salt solution into a separating funnel.
After resting, three separate layers form because of differences in density.
The student notices that:
The top layer is non-sticky and lighter than water.
The bottom layer tastes salty.
Solid salt can be obtained from the bottom layer on further processing.

Which of the following shows the correct top-to-bottom order AND the correct method to obtain pure salt?

a) Oil → Salt solution → Water; Crystallization
b) Oil → Water → Salt solution; Evaporation
c) Oil → Water → Salt solution; Crystallization
d) Oil → Salt solution → Water; Filtration



24) Which object converts electrical energy into heat most efficiently?
a) Electric iron
b) Tube light
c) Fan
d) TV

25) Which pair shows a Rabi crop and a Kharif crop?
a) Rice – Gram
b) Wheat – Mustard
c) Rice – Maize
d) Wheat – Pea

26) Jahnvi tested two food items X and Y.
On adding iodine to X, it turned blue-black.
On adding copper sulphate + caustic soda to Y, it turned violet.
Which of the following conclusions is the best explanation for her observations?
a) X contains carbohydrate (starch), Y contains protein.
b) X contains protein, Y contains starch.
c) Both X and Y contain only carbohydrates.
d) X contains fat, Y contains carbohydrate.

27) Manisha added vinegar to baking soda in a test tube. A gas was released which extinguished a burning matchstick brought near the mouth of the tube. Which of the following is the most accurate explanation?
a) The gas released is heavier than air and does not support combustion.
b) The gas released is oxygen, which reacts with fire to extinguish it.
c) The gas produced is carbon dioxide, which forms a blanket around the flame.
d) The gas produced is nitrogen, which does not support burning.

28) A seed has hooks on its surface. It is MOST likely dispersed by—
a) Wind
b) Animals
c) Water
d) Explosion

29) The animal shown moves with the help of a muscular organ. Which of the following adaptations also help this animal survive in its habitat?
a) Presence of radula for scraping food.
b) Breathing through a lung cavity in air.
c) Hard protective shell to reduce water loss.
d) All of the above.



30) Which material will decompose the fastest in soil?

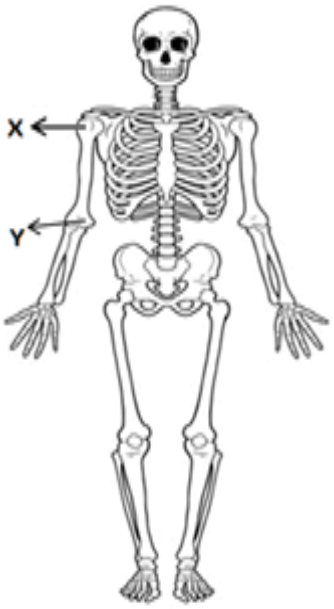
a) Plastic
b) Cotton cloth
c) Glass
d) Tin

31) Look at the skeleton diagram.

The shoulder joint (X) allows movement in all directions and is identified as a ball-and-socket joint. The elbow joint (Y) allows movement only in one plane, but rotation of the forearm is also possible due to the joint between two arm bones near the elbow.

Which statement correctly identifies the primary joint type at Y?

a) Gliding joint, because the bones slide past each other to allow rotation
b) Pivot joint, because rotation occurs near the elbow
c) Hinge joint, because bending and straightening are the main movements
d) Fixed joint, because bones cannot move at this joint



32) Mini moves on a straight road from point P to point R. She takes 30 minutes to cover a certain distance (PQ) and 40 minutes to cover the rest of the distance (QR). She then returns back and takes 40 minutes to cover the distance RQ and 30 minutes to cover the rest of the distance to her starting point. She makes 5 rounds on the road in the same way. Mini concludes that her motion is _____.

a) Only rectilinear motion
b) Only periodic motion
c) Rectilinear and periodic motion
d) Neither rectilinear nor periodic motion

33) Observe the plant diagram with parts labeled W, X, Y, and Z.

Which option correctly matches them with edible plant parts and suitable examples?

W (flower), X (stem), Y (fruit), Z (root)

a) W → Cauliflower, X → Ginger, Y → Tomato, Z → Beetroot
b) W → Broccoli, X → Potato, Y → Brinjal, Z → Turmeric
c) W → Cabbage, X → Turmeric, Y → Mango, Z → Radish
d) W → Lotus, X → Sugarcane, Y → Apple, Z → Onion



34) A slice of bread is kept:

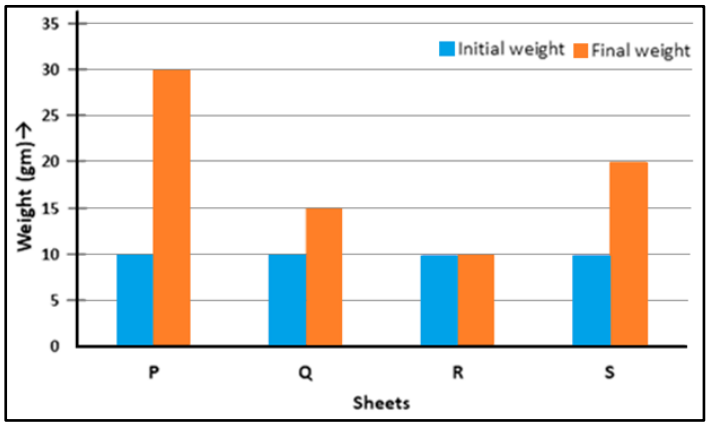
- Piece 1 — Refrigerator
- Piece 2 — Closed box at room temp
- Piece 3 — Warm & moist bag

Where will fungus grow fastest?

a) 1 b) 2

c) 3 d) all equal

35) Four fabrics P, Q, R, S were dipped in equal water. After 10 minutes, their final weights were measured. Which is best suited for a raincoat?



a) P b) Q c) R d) S

36) Riya placed a white rose in a glass containing red-coloured water. After a few hours, the petals turned reddish. What does this experiment prove?

a) Water moves in plants through xylem.

b) Flowers absorb water directly through petals.

c) Plants do not require water for survival.

d) Water changes the colour of plant cells permanently.

37) A bottle filled with water to the brim is tightly capped and frozen. The cap bulges out after a day. This most strongly supports that:

a) Water evaporates when cooled b) Water expands on freezing

c) Ice is heavier than water d) Water contracts on cooling

38) Astronauts need a heat-shield on spacecraft. Which concept explains why?

a) Space is cold b) Friction with atmosphere causes heating

c) Oxygen burns objects in space d) Rockets always produce heat

39) A student places an inverted glass inside a container of water and connects a rubber hose to the top of the inverted glass. When air is blown into the glass through the hose, bubbles rise inside the glass and collect at the top.

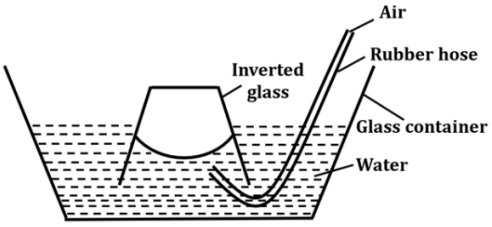
What will MOST LIKELY happen inside the inverted glass?

a) The water level inside the inverted glass rises because extra air pushes water up

b) The water level inside the inverted glass falls because the trapped air increases pressure and displaces water

c) The water level remains unchanged because equal pressure acts at all sides

d) Water fills the entire glass because blowing air dissolves water completely.



40) A rubber ball and a clay ball hit the floor with equal speed.
Rubber ball bounces back, clay ball doesn't because:

a) Clay is heavier
b) Rubber stores elastic energy
c) Air pushes rubber upward
d) Floor exerts no force on clay

SECTION – C
ENGLISH

Read the text and answer the questions that follow.

Olympic Gold Medallist Rower Katherine Grainger was born and bred in Glasgow and strongly believes that people have got a great sense of humour. Speaking of the importance of volunteers in the forthcoming Commonwealth Games, she says, "I think that a sense of humour is really a huge requirement for a lot of the volunteer roles, especially in sports festivals. I reckon, it is more important than any previous experience of volunteering." She is very confident that the organisers will get plenty of right people for volunteering that everyone will get a chance to savour Scottish humour.

The volunteers she remembers most from London Olympics 2012 were those individuals with their own personalities. "You could never say that the Games Makers were a production line of certain people. They were different ages and from different backgrounds, and they'd all welcome you in a different way," she says.

An interesting incident, she recalls-her encounter with a volunteer boy in the London Olympics 2012. When she turned up on the morning of her rowing final, a volunteer welcomed her and other team members and pointing to the chocolate medal in his neck, jokingly commented, "Hey everyone, I bet you're jealous of my gold medal! She and her team members could not help smiling.

Another thing about the London Olympics 2012 that left her particularly impressed were the long chains of volunteers on the way to and from the stadiums. The way they were high-fiving people, dancing and singing was the most amazing sight. They enhanced the excitement and gaiety of the extravaganza and painted a very positive picture of their country, she recalls.

Commenting on the general notion that volunteering may be a thankless job, she says, "Some of the volunteering roles could perhaps have been seen as mundane or not particularly glamorous, but I believe volunteering is a crucial job and that volunteers should be made to feel admired, respected and loved. That would make them even happier to be doing those roles and rub off the feel-good spirit on everyone else."

"Volunteers can really set the mood of the Games. If you get it right, people arrive and leave happy," she says.

41) What kind of people, according to Katherine, and just right for volunteering?

a) People who were born in Glasgow.
b) People who can make others laugh.
c) People who have experience of volunteering.
d) People who understand Scottish humour.

42) A quality of the volunteers of London Olympics 2012 does Katherine remember most is the
   a) similarities in their personalities and behaviour
   b) uniformity in their ages and backgrounds
   c) distinct character and conduct of each member
   d) common way in which they welcomed guests

43) The volunteer boy with a chocolate medal in his neck was trying to _____ and her teammates.
   a) please
   b) taunt
   c) incite
   d) flatter

44) According to paragraph 4, Katherine was most impressed with the _____.
   a) extraordinary atmosphere of celebration that prevailed in the games
   b) way volunteers added to the charm and enthusiasm of the games
   c) amount of respect and affection that volunteers get from one and all
   d) extraordinarily large crowds of spectators that thronged the stadiums

45) The general view about most jobs of volunteering is that they are very _____.
   a) stylish and very beautiful
   b) ordinary and unrewarding
   c) crucial jobs few can do well
   d) interesting and happy jobs

WORD AND STRUCTURE KNOWLEDGE

46) **Question 46) to 48)** Choose the correct option to fill in the blank.
Rishab is _____idiot to have failed such _____simple test.
   a) an, a
   b) an, the
   c) a, the
   d) a, an

47) The new Japanese restaurant was not open yesterday, _____ ?
   a) was it
   b) does it
   c) will it
   d) has it

48) The professor_____ me not to interrupt him in the middle of his lecture.
   a) retorted
   b) asked
   c) said
   d) quizzed

49) **Directions (For Q. 49) :** Choose the part of the sentence that has an error.
Ria and Tina are twins. While the former likes singing, the last loves dancing.
   a) Ria and Tina are twins
   b) last loves dancing
   c) While the former
   d) likes singing, the

50) **Directions (For Q. 50) :** Choose the option with correct spelling.
How do you spell the word that means 'excessive and often incoherent talkativeness or wordiness'?
   a) Logorrhea
   b) Logaria
   c) Logorrea
   d) Logreah

51) **Directions (For Q. 51) :** Choose the correct synonym of the given word.
Upheaval
   a) Disruption
   b) Tranquility
   c) Stability
   d) Harmony

52) **Directions (For Q. 52) : Choose the correct option to complete the conversation.**
Ashok : I was _____ leaving the place when you came here.
a) even b) just
c) too d) now

53) **Directions (For Q. 53 and 54) :** Choose the correct option to complete the sentence.
A man remains narrow minded, _____ ignorant until he learns from his mistakes.
a) self-love b) selfless
c) self-complacent d) self-confidence

54) If you were in my shoes, you _____ worse than I did in this situation.
a) would reacted much b) would be reacting more
c) would have reacting more d) would have reacted much

55) **Directions (For Q. 55) :** Choose the appropriate meaning for the following idioms/ proverbs.
'Break the ice' means _____.
a) to be blunt and candid about something
b) to hope that nothing bad will happen
c) a hidden advantage
d) to remove tension at the beginning

SECTION – D
APTITUDE

56) Which number completes the sequence? 4, 9, 19, 39, _____
a) 59 b) 69
c) 79 d) 99

57) If MONDAY = 6 letters and FRIDAY = 6 letters, which of the following also has 6 letters?
a) August b) July
c) September d) October

58) Find the odd one out : 16, 25, 36, 49, 64
a) 16 b) 25
c) 36 d) 64

59) A is older than B. C is younger than B. D is older than A. Who is the youngest?
a) A b) B
c) C d) D

60) Which number should replace the question mark?
3 → 12 5 → 30 7 → 56 9 → ?
a) 63 b) 72
c) 81 d) 90

61) Introducing a lady, Raj said, "She is the daughter of my grandfather's only son." How is the lady related to Raj?
a) Sister b) Cousin
c) Aunt d) Niece

62) What is the next term? 2A, 4B, 8C, 16D, ____
a) 20E b) 24E
c) 30E d) 32E

63) Which statement MUST be true?
All squares are rectangles.
Some rectangles are big.
Therefore:

a) All squares are big
b) Some squares may be big
c) No square is big
d) All rectangles are squares

64) If P = 16, Q = 17, R = 18, what is T?

a) 19
b) 20
c) 21
d) 22

65) Ravi went to watch a movie after 13 days of first Thursday of December. If third day of December is on Wednesday, then on which date did he go to watch movie?

a) 21 December
b) 17 December
c) 18 December
d) 19 December

SECTION – E
GENERAL KNOWLEDGE

66) Vulture, hyena and eagle are examples of _____.

a) Producers
b) Herbivores
c) Decomposers
d) Scavengers

67) Who among these children gave an incorrect statement ?

a) Riya : A banana plant has a green, soft stem. It is a herb.
b) Amit: Watermelon is a climber plant with weak stem that can
c) Saurav : Maize, wheat and barley are plants with fibrouse roots.
d) Priya: Stem, leaves, buds and flowers are included in the shoot system of the plant.

68) Which of the following fibers is a synthetic fiber ?

a) Wool
b) Cotton
c) Linen
d) Nylon

69) Unscramble the given letters to find the name of the planet which has the highest percentage of methane gas in our Solar System.

a) URSANAT
b) SANURU
c) NTUEPEN
d) ERPUJIT

70) Which among the following skills can help you to adapt new changes?

a) Flexibility
b) Time management
c) Rigid behaviour
d) All of these

71) The numerical value of the perimeter of a square is equal to the area of a rectangle. Also, one side of the square is equal to the length of the rectangle which is 14 cm. Find the breadth of the rectangle.

a) 14 cm
b) 7 cm
c) 8 cm
d) 4 cm

72) The traffic sign shown in the picture is related to which of the following?

a) School ahead
b) Pedestrian crossing
c) Hospital
d) Cycling path



73) Which of the following countries is called “Land of the Midnight Sun”?

a) Sweden
b) Antarctica
c) Switzerland
d) Norway

74) What is the meaning of Latin phrase ‘modus Vivendi’ ?

a) A way of doing something
b) An arrangement that allows conflicting parties to coexist peacefully
c) The most important work of an artiest
d) A piece of gossip

75) ‘Natya Shastra’ is the main source of India’s classical dances. It was believed to be written by _____.

a) Rabindranath Tagore
b) Bharata Muni
c) Suchitra Sen
d) Bharati Shirodker