## IMPORTANT INSTRUCTIONS

- The maximum marks are **300.** Time allotted is **90 MINTUES.**
- There are four sections in the question paper having total **75 questions:**
  - Section – A : Maths (20 Questions)
  - Section – B : Science (20 Questions)
  - Section – C : English (20 Questions)
  - Section – D : Aptitude (15 Questions)
- Each question carries **4 marks**
- **Negative Marking**: **1/4 (one-fourth) marks** will be deducted for every incorrect answer.
- **Use only BLUE / BLACK pen to fill the circles in bubble sheet.**
- Use of pencil is strictly **not allowed.**
- **Do not use marker or correction pen** to hide the mark.

## SECTION – A MATHS

1. A man walked 3 km towards North then 8 km towards South. What is his final position with respect to his initial position?
   (a) 5 km towards East (b) 3 km towards South
   (c) 8 km towards North (d) 5 km towards South

2. What do you call the fractions which have one as the numerator?
   (a) Like fractions (b) Unlike fractions (c) Unit fractions (d) Equal fraction

3. How many one-fourths need to be added to $2\frac{1}{4}$ to make 5?
   (a) 3 (b) 4 (c) 5 (d) 11

4. Which of the following statements is true?
   (a) Fractions with the same numerator are called like fractions.
   (b) Fractions with the same denominator are called unlike fractions.
   (c) Difference of two like fractions
   $= \frac{\text{difference of numerators}}{\text{common denominator}}$
   (d) A fraction with the numerator greater than or equal to the denominator is called a proper fraction.

5. What is the value of
   $3\frac{1}{12} - \left[1\frac{3}{4} + \left\{2\frac{1}{2} - \left(1\frac{1}{2} - \frac{1}{3}\right)\right\}\right]$ ?
   (a) 0.5 (b) 2 (c) 1 (d) 0

6. What are the two steps involved in solving the equation $15x + 4 = 26$?
   (a) Subtracting 4 from both the sides and then dividing both sides by 15.
   (b) Adding 4 on both sides & then multiplying both sides by 15.
   (c) Subtracting 4 on the L.H.S. and multiplying by 15 on the R.H.S.
   (d) Adding 4 on the L.H.S. and dividing by 15 on the R.H.S.

7. If $\frac{3p+2}{5} - \frac{4p-3}{7} + \frac{p-1}{35} = 4$, find the value of p.
   (a) 65 (b) 63 (c) 36 (d) 56

8. $1.1 \times .1 \times .01 = ?$
   (a) .011 (b) .0011 (c) .11 (d) none of these

9. Which of the following numbers is in standard form?
   (a) $32.63 \times 10^4$ (b) $326.3 \times 10^3$ (c) $3.263 \times 10^5$ (d) none of these

10. A number when multiplied by 5 is increased by 80. The number is
    (a) 15 (b) 20 (c) 25 (d) 30

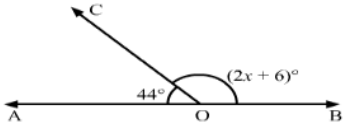
11. If the cost price of 4 toffees be equal to the selling price of 3 toffees, then the gain% is
    (a) 25% (b) 30% (c) $16\frac{2}{3}\%$ (d) $33\frac{1}{3}\%$

12. On selling a racket for ₹ 198, a shopkeeper gains 10%. The cost price of the racket is
    (a) ₹ 180 (b) ₹ 178.20 (c) ₹ 217.80 (d) ₹ 212.50

13. The simple interest on ₹ 6250 at 4% per annum for 6 months is
    (a) ₹ 125 (b) ₹ 150 (c) ₹ 175 (d) ₹ 135

14. Two supplementary angles are in the ratio 3 : 2. The smaller angle measures
    (a) $108^\circ$ (b) $81^\circ$ (c) $72^\circ$ (d) $68^\circ$

15. In Fig, the value of x is
    (a) 75 (b) 65
    (c) 45 (d) 55




16. The C.P. of a chair is ₹ 3300. If it is sold at a loss of 10%, then SP is
    (a) ₹ 3000 (b) ₹ 3070 (c) ₹ 2790 (d) ₹ 2970

17. If the cost price of 15 pens is equal to the selling price of 20 pens, than the loss per cent is
    (a) 25% (b) 20% (c) 15% (d) 10%

18. 55% of 1000 ÷ 60% of 2000 =
    (a) $\frac{11}{24}$ (b) $\frac{12}{25}$ (c) $\frac{13}{24}$ (d) $\frac{14}{25}$

19. The ratio 3 : 5 as a per cent is
    (a) 60% (b) 50% (c) 40% (d) 80%

20. If $\frac{x}{6}+\frac{x}{4}=\frac{x}{2}+\frac{3}{4}$, then x =

(a) 9 (b) 6 (c) $-9$ (d) 4

## SECTION – B
## SCIENCE

21. The given figures show different types of teeth. Which of these is used for biting and cutting of food?




(a) X (b) W (c) both W and Y (d) both Y and Z

22. Which of the following statements are correct regarding sericulture?

(i) After hatching, the silkworms are fed on freshly chopped mango leaves.

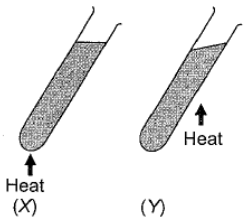
(ii) The silk fibre is obtained from the cocoons by a process known as reeling.

(iii) If an adult is allowed to emerge out from cocoon, the cocoon becomes useless for silk production.

(a) (i) and (ii) only (b) (i) and (iii) only (c) (ii) and (iii) only (d) (i), (ii) and (iii)

(d) Shopkeepers selling ice blocks usually cover them with jute sacks.

23. Two glass test tubes are heated from two different places of the test tubes. In which test tube will all the water heat up first?




(a) in X only (b) in Y only

(c) in both X and Y at same time (d) cannot be determined

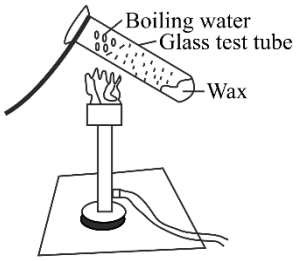
24. Sumedha took a spoon of turmeric powder and made a paste by adding little water to it. She cut thin strips of a paper and applied this paste on them. After dying she put few drops of given sample solutions (i)-(iv) on these strips. What would be the changes in the colour she observed?

(i) Amla Juice (ii) Lime water

(iii) Common salt solution (iv) Baking soda solution

| | (i) | (ii) | (iii) | (iv) |
|---|---|---|---|---|
| (a) | Yellow | Red | Yellow | Red |
| (b) | Red | Yellow | Yellow | Red |
| (c) | Red | Red | Yellow | Yellow |
| (d) | Yellow | Yellow | Red | Red |

25. In a experiment shown in figure, the water near the top of the tube starts boiling but the wax in the test tube does not melt completely. What do you conclude?



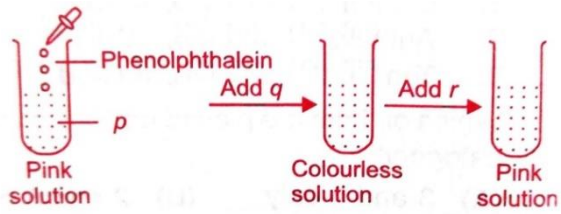

(a) Convection cannot occur in water
(b) Water is a poor conductor of heat.
(c) Wax is a bad radiator of heat.
(d) Heat is not reaching at the bottom of the test tube as tube is made of insulator.

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

| Column I | Column II |
|---|---|
| (P) Ammonium hydroxide | (i) Spinach |
| (Q) Tartaric acid | (ii) Window cleaner |
| (R) Zinc carbonate | (iii) Tamarind |
| (S) Oxalic acid | (iv) Calamine |

(a) (P) – (ii), (Q) – (iii), (R) – (iv), (S) – (i)
(b) (P) – (iv), (Q) – (i), (R) – (ii), (S) – (iii)
(c) (P) – (ii), (Q) – (iii), (R) – (i), (S) – (iv)
(d) (P) – (iii), (Q) – (ii), (R) – (iv), (S) – (i)

27. Kartik performed the following experiment by taking few solutions and phenolphthalein indicator. Identify p, q and r in his experiment.




(a) p → Acid, q → Acid, r → Base
(b) p → Base q → Acid, r → Base
(c) p → Base q → Base, r → Acid
(d) p → Base q → Acid, r → Acid

28. Observe the given reaction carefully and fill in the blanks by selecting an appropriate option.

$Fe_{(s)} + CuSO_{4(aq)} \rightarrow FeSO_{4(aq)} + Cu_{(s)}$

Before reaction, iron is (i) in colour and solution is (ii) in colour. After reaction iron gets (iii) deposits and the solution becomes (iv) in colour.

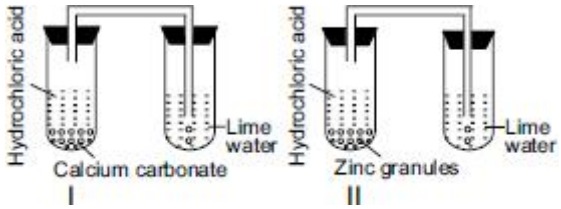
| | (i) | (ii) | (iii) | (iv) |
|---|---|---|---|---|
| (a) | Grey | Colourless | Red | Blue |
| (b) | Red | Blue | Grey | Green |
| (c) | Grey | Blue | Brown | Green |
| (d) | Red | Colourless | Grey | Green |

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

| Column I | Column II |
|---|---|
| (P) Expansion of metals on heating | (i) Neither physical nor chemical change |
| (Q) A stone kept in the sunlight | (ii) Chemical change |
| (R) Burning of a candle | (iii) Combination of physical and chemical changes |
| (S) Curdling of milk | (iv) Physical change |

(a) (P) – (iv), (Q) – (i), (R) – (iii), (S) – (ii)
(b) (P) – (iv), (Q) – (iii), (R) – (ii), (S) – (i)
(c) (P) – (i), (Q) – (ii), (R) – (iii), (S) – (iv)
(d) (P) – (i), (Q) – (iv), (R) – (ii), (S) – (iii)

30. Kanav took two test tubes marked as I and II. In test tube I, he put calcium carbonate and hydrochloric acid while in test tube II, he put zinc granules and hydrochloric acid. He passed the gas coming out from both the test tubes in lime water. What would be his observation?




(a) The gas coming out from test tube I turned lime water milky.
(b) The gas coming out from test tube II turned lime water milky.
(c) The gases coming out from both the test tubes turned lime water milky.
(d) None of these

31. Read the given statements and select the correct option.
(i) In insects, circulating body fluids serve to distribute oxygen to tissues.
(ii) Yeasts respire aerobically, therefore, they are used to make wine and beer.
(iii) Bronchitis is the inflammation of bronchi which may be caused on exposure to air pollutants.
(iv) In a healthy person, maximum capacity of lungs for inhaled air is 1500 mL.
(v) Sneezing expels the foreign particles from the inhaled air.
(a) Statements (i), (ii) and (iv) are incorrect, while statements (iii) and (v) are correct.
(b) Statements (i), (ii) and (iii) are incorrect, while statements (iv) and (v) are correct.
(c) Statements (ii) is incorrect, while statements (i), (iii), (iv) and (v) are correct.
(d) Statements (ii) and (v) are incorrect, while statements (i), (iii) and (iv) are correct.

32. A person puts warm water in an aquarium thinking that the fish would be more comfortable in it. However, the fish died, What can be the reason for this?
(a) The concentration of oxygen decreases in warm water.
(b) The concentration of carbon dioxide increases in warm water.
(c) Fish cannot bear the extreme heat of the water.
(d) All of these

33. Pulmonary _____carries_____ rich blood from the heart to the lungs and pulmonary_____ carries_____rich blood from the lungs to the heart.
Select the option that correctly fills up the blank spaces in the above passage.
(a) Vein, Carbon dioxide, Artery, Oxygen
(b) Vein, Oxygen, Artery, Carbon dioxide
(c) Artery, Carbon dioxide, Vein, Oxygen
(d) Artery, Oxygen, Vein, Carbon dioxide

34. Which of the following is an incorrect match?

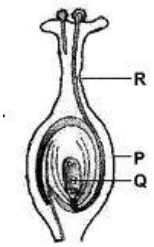
| | **Fruit** | **Agent of dispersal** | **Part of seed which helps in dispersal** |
|---|---|---|---|
| (a) | Drumstick | Wind | Wings of seed |
| (b) | Madar | Water | Hairy seeds |
| (c) | Coconut | Water | Spongy outer coat |
| (d) | Xanthium | Animals | Hooks in fruits |

35. Study the given table and select the correct option.

| **Methods of reproduction** | **Examples** |
|---|---|
| Budding | P |
| Spore formation | Q |
| Fragmentation | R |
| Vegetative propagation | S |

| | P | Q | R | S |
|---|---|---|---|---|
| (a) | Dahlia | Spirogyra | Rhizopus | Begonia |
| (b) | Yeast | Rhizopus | Spirogyra | Begonia |
| (c) | Spirogyra | Rhizopus | Begonia | Dahlia |
| (d) | Dahlia | Yeast | Spirogyra | Rhizopus |

36. Refer to the given figure and select the correct statement (s).
(i) The part labelled as P gives rise to fruit.
(ii) The part labelled as R is responsible for transfer of female gamete.
(iii) The part labelled as Q transforms into endosperm.
(iv) The part labelled as Q is female gamete.
(v) The part labelled as R carries pollen.




(a) (i) only (b) (i) and (iii) only (c) (iii) and (iv) only (d) (ii) and (v) only

37. Match the two columns and select the correct option from codes given below.

| **Column I** | **Column II** |
|---|---|
| (A) A bad conductor of electricity but good conductor of heat. | (i) CFL |
| (B) A wire twisted many times in the form of circles | (ii) Nichrome |
| (C) Smart eco-friendly bulb | (iii) Mica |
| (D) An alloy whose temperature can rise up to 900°C and used as heating element | (iv) Coil |

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

38. A fuse wire is made up of alloy
(a) nichrome (b) tin-lead (c) manganin (d) constantan

39. Oscillations are set in a simple pendulum whose length is 2 m and mass of the bob is 2 kg. Its time period
(a) is always constant (b) increases slowly
(c) decreases slowly (d) first increases then decreases.

40. Consider the following statements and select the correct option which correclty identifies true (T) and false (F).
(i) Iron loses its magnetism easily
(ii) Steel is a hard magnetic material.
(iii) Soft iron is used to make permanent magnet.
(iv) Steel is used to make electromagnet.

| | (i) | (ii) | (iii) | (iv) |
|---|---|---|---|---|
| (a) | F | F | T | T |
| (b) | T | T | T | F |
| (c) | T | F | T | F |
| (d) | F | T | F | T |

## SECTION – C
## ENGLISH

- **Read the following passage carefully and answer the questions that follow :**

People drink a lot of coffee. There are many kinds of Coffee. There is black coffee, green coffee, white coffee and yellow coffee. People drink a lot of Coffee in China. Some people drink it because it is good for them. It makes them healthy. Other people drink it because it tastes very good. It tastes delicious. People drink a lot of green coffee in Japan. People drink a lot of green coffee in Korea too. In Vietnam, some people drink tea before they drink coffee. People drink a lot of coffee in England. Every afternoon, English people drink coffee. English people add milk to their coffee. Finally, many people drink coffee in the U.S. In the South, people drink "sweet coffee". "Sweet coffee is cold and black coffee with sugar. Most coffee comes from China. Some coffee comes from India or Sri Lanka. Kenya, Japan, and Indonesia also grow a lot of coffee.

41. People add milk to their coffee in _____
(a) India (b) England (c) Vietnam (d) Sri Lanka

42. People drink "sweet coffee" in _____
(a) The South (b) The Northern U.S. (c) Vietnam (d) Korea

**Word and Structure Knowledge**

43. Choose the best word or phrase to complete each sentence.
Not only she _____ in drama, but she is also directing it.
(a) was acting (b) is acting (c) did act (d) does act

44. Choose the odd one out.
(a) disappear (b) dissolve (c) dissatisfy (d) disallow

45. Choose the best word or phrase to complete each sentence.
Somebody stole my pencil yesterday.
(a) Stolen pencil by somebody.
(b) Yesterday pencil was stolen.
(c) My pen was stolen by somebody yesterday.
(d) None of these

46. What part of the sentence is the highlighted word:
In the film, two of the characters don't achieve their aims. That makes the film rather **melancholy**, although it's basically a romantic story.
(a) Interjection, Adjective (b) Adjective, Noun (c) Interjection, Adverb (d) Noun, Adverb

47. Choose the sentence that has been punctuated correctly:



(a) The reporter interviewed, each witness, spoke to the investigating officer, and filed his story
(b) The reporter interviewed, each witness, spoke to the investigating office, and, filed his story
(c) The reporter, interviewed each witness, spoke to the investigating officer and filed his story.
(d) The reporter interviewed each witness, spoke to the investigating officer and filed his story.

48. Choose the sentence that uses a connecting word correctly:



(a) As you are the the team leader, therefore you should report any discrepancy to your manager.
(b) Since you are the the team leader, thus you should report any discrepancy to your manager.
(c) Because you are the the team leader, so you should report any discrepancy to your manager.
(d) Since you are the the team leader, you should report any discrepancy to your manager.

49. Choose a correct option to fill in the blanks:



He's Lincoln. He_____ the followers. The followers __ _____ by him.
(a) will lead, will be led (b) was led, will be led
(c) will be led, were led (d) is led, will lead

50. Complete the sentence using appropriate combination of prepositions:
I was _____ Japan _____ two months _____ the winters.
(a) at, during, for (b) in, for, during (c) at, for, from (d) at, for, during

51. Choose the proper sequence from the jumbled options:
People
P : on the day of the election
Q : gathered at the public school
R : from all region
S : to cast their vote
The proper sequence should be:
(a) QPRS (b) RPQS (c) RQSP (d) QRPS

52. Choose the correct option with right order of adjectives to fill in the blanks:
I didn't get _____ sleep last night thinking about the old man who hasn't got _____ hair on his head. He had _____ children, making fun around him.



(a) many, much, many (b) many, many, many
(b) much, much, much (d) much, much, many

53. Identify the noun for the word given in quotes:
In most ancient cultures, "gold" was popular in jewellery and art because of its value and aesthetic qualities.
(a) Gold is a countable noun (b) Gold is a material noun
(c) Gold is an abstract noun (d) Gold is a proper noun

54. From the given options, choose the one which expresses the given sentence in Indirect/Direct speech:



"If you don't keep quiet I will kill you, "the thief said to him in a calm voice.
(a) The thief said calmly that he will kill him if you don't keep quiet.
(b) The thief warned him calmly that he would kill him if he didn't keep quiet.
(c) The thief said calmly that I will kill you if you don't keep quiet.
(d) Calmly the thief warned him that be quiet or else he will have to kill him.

55. Choose the antonym of the given word: **Habitual**
(a) occasional (b) persistent (c) ordinary (d) infrequent

56. Fill in the blanks with the correct Present Perfect tense:
I went to Europe and I _____ (learn) another word of a different language.



(a) learned (b) have learned (c) learn (d) was learned

57. Which sentence demonstrates the wrong usage of semi-colon?
(a) I like Mother Teresa; she is a symbol of love and affection.
(b) I bought a lot of vegetables; cauliflowers, potatoes, tomatoes, etc.
(c) The river runs through a beautiful wooded valley; the path follows it.
(d) I ordered books from Amazon for my daughter a month back; and the books should have arrived by now.

58. Change the voice.
Make room for him.
(a) It is requested to make room for him.
(b) For him, room should be made
(c) It is sure that room will be made for him.
(d) Let room be made for him.

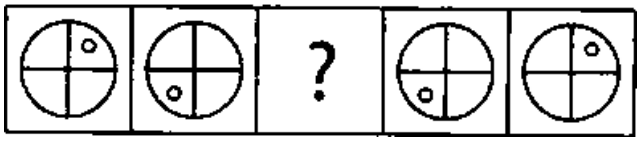
59. Select synonym to the given word: **Eminent**.
(a) famous (b) superior to all
(c) efficient (d) very important

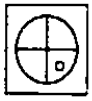
60. Dhaka is the capital city of Bangladesh. Bangladesh is an example of _____.
(a) common noun (b) proper noun (c) material noun (d) abstract noun

## SECTION – D
## APTITUDE

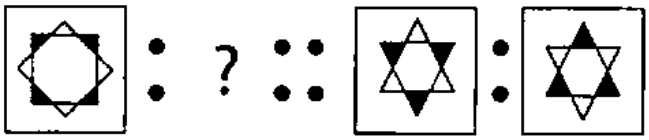
61. Find the missing term from amongst the options.
2, 7, 27, 107, 427, ?
(a) 1262 (b) 1735 (c) 1707 (d) 4207

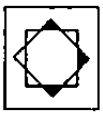
62. One figure of this series is missing. Choose the missing figure from the options.




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

63. Select a figure from the options which completes the first pair in the same way as the second pair.



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

64. Which of the following indicates similar relationships as 'NORMAL' has with 'LMPOCN'?
(a) RESCUE : PCQAWG (b) BRANCH : DTCLAF
(c) NATION : LYRGMK (d) FRIEND : DPGGPF

65. In a code language, 'mok dan sil' means 'nice big house', 'fik kon dan' means 'house is good' and 'warm tir fik' means 'cost is high'. Which word stands for 'good' in that language?
(a) kon (b) sil (c) fik (d) mok

66. If in a certain code language, ACNE is coded as 3 5 16 7, then how will PAIR be coded in the same language?
(a) 18 3 11 20 (b) 18 3 11 25 (c) 13 4 11 18 (d) 15 4 19 27

67. If 'P + Q' means P is the mother of Q, 'P ÷ Q' means P is the brother of Q, 'P # Q' means P is the father of Q and 'P*Q' means P is the sister of Q, then how is L related to O in 'K ÷ L + M # N *O'?
(a) grand daughter (b) sister (c) mother (d) grand mother

68. If B is to the South-West of A, C is to the East of B and also South-East of A, D is to the North of C in line with BA, then in which direction of A is D located?
(a) North (b) East (c) South (d) North-East

69. Gaurav walks 2 km towards North. He then turns left and walks 6 km. He again turns left and walk 2 km. Further, he moves 3 km after turning to the right. How far is he from his original position?
(a) 9 km (b) 8 km (c) 6 km (d) 10 km

70. P, Q, R, S, T, V and W are sitting around a circle facing the centre. R is third to the right of V, who is second to the right of P. T is second to the left of Q, who is second to the left of W. V is sitting between S and W. Who is sitting between T and V?
(a) W (b) R (c) S (d) Can't be determined

71. If × stands for addition, - stands for division, ÷ stands for subtraction and + stands for multiplication, then which of the following is correct?
(a) $16 \times 5 \div 10 + 4 - 3 = 19$ (b) $16 + 5 \div 10 \times 4 - 3 = 19$
(c) $16 + 5 - 10 \times 4 \div 3 = 9$ (d) $16 - 5 \times 10 \div 4 \div 3 = 12$

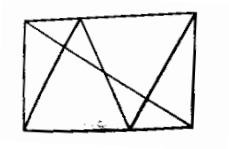
72. The given equation becomes correct due to the interchange of two signs. One of the four options under it specifies the interchange of signs in the equation. Choose the correct option.
$5 + 6 \div 3 - 12 \times 2 = 17$
(a) + and ÷ (b) + and × (c) ÷ and × (d) + and −

73. Which of the following interchanges in signs makes the given statement true?

$5 \times 15 \div 7 - 20 + 4 = 77$

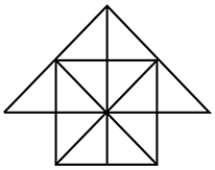
(a) − and + (b) + and × (c) ÷ and + (d) ÷ and ×

74. How many triangles are there in each of the following figures?



(a) 16 (b) 26 (c) 20 (d) 18

75. Count the number of triangles and squares in the given figure.



(a) 26 triangles, 5 squares (b) 28 triangles, 5 squares
(c) 26 triangles, 6 squares (d) 28 triangles, 6 squares