Sainik School
Entrance Exam (Class 6)

Solved Paper 2019

Time : 2 hrs   Marks : 250

Instructions

1. This question paper contains 100 questions, which is divided into following three sections.
   Section A Mathematics (50 Questions); **Section B** General Knowledge (25 Questions);
   Section C English (25 Questions).
2. Section A carries 150 Marks, Section B carries 50 Marks and Section C carries 50 Marks.
3. The candidate is expected to attempt all questions.

Paper 1

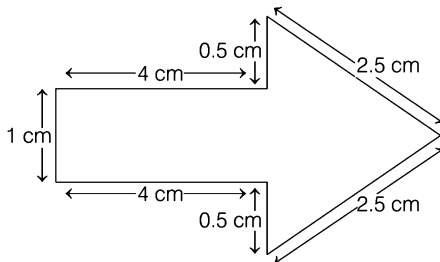## Section A Mathematics

1. A student multiplied 7236 by 65 instead of multiplying by 56. By how much was his answer greater than the correct answer?
   (a) 87555   (b) 65124
   (c) 72360   (d) 65000

2. Simplify $1 \div \left\{ \dfrac{1}{2} + \dfrac{1}{3} + \dfrac{1}{6} \div \left(\dfrac{3}{4} - \dfrac{1}{3} \right) \right\}$.
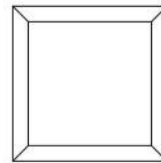
   (a) $\dfrac{30}{37}$ (b) $\dfrac{37}{30}$ (c) $\dfrac{15}{37}$ (d) $\dfrac{15}{30}$

3. Find the perimeter of the following figure.

   (a) 15 cm   (b) 15 cm^2 (c) 16 cm   (d) 25 cm^2

4. A floor is 5 m long and 4 m wide. A square carpet of side 3 m is laid on the floor. Find the area of the floor that is not carpeted.

   (a) 21m^2 (b) 29m^2 (c) 11m^2 (d) 21cm^2

5. Find out the smallest number which is divisible by 6, 12, 18.
   (a) 360   (b) 180
   (c) 120   (d) 60

6. Which of the following measures of angles given can be those of a isosceles triangle?
   (a) 90°, 45°   (b) 60°, 30°
   (c) 120°, 40°   (d) 90°, 50°

7. The length of a rectangle is 5 cm more than its breadth. If the perimeter of the rectangle is 50 cm, then what is the area?
   (a) 150 cm^2 (b) 250 cm^2
   (c) 900 cm^2 (d) 800 cm^2

8. 12 persons can finish a piece of work in 15 days. In how many days will the same work be completed by 20 persons?
   (a) 15 days   (b) 9 days
   (c) 30 days   (d) 20 days

9. The LCM of two prime numbers is
   (a) difference
   (b) product
   (c) sum
   (d) None of these

10. In a school of 1000 students, 330 come by bus, 400 come walking and the remaining are dropped by parents. What is the percentage of students that do not ride the bus to school?
    (a) 67%
    (b) 27%
    (c) 50%
    (d) 33%

11. A train from station A to station B covers a distance of 616km at a uniform speed of 112km/hr. It halts at station B for 1 h before starting back. How much time will it take to complete the journey and reach back to station A (i.e. from A to B and back)?
    (a) 11 h
    (b) 12 h 45 min
    (c) 12 h
    (d) 5 h 30 min

12. A table was sold at 16% loss for ₹ 3360. Find the cost price of the table.
    (a) ₹ 4000
    (b) ₹ 3392
    (c) ₹ 3600
    (d) ₹ 4296

13. There are 17 rooms in a school, every room has two fans and four LED bulbs. How many switches are required for the school if every fan requires a switch and one switch is required for every two bulbs?
    (a) 34
    (b) 68
    (c) 102
    (d) 17

14. The product of two decimal numbers is 12.194. If one of them is 4.69, what is the other number?
    (a) 7.6
    (b) 2.6
    (c) 9.8
    (d) 4.8

15. Rahul purchases a chair for ₹ 600 and uses ₹ 200 for repairs. If he sells it for ₹ 1000, then he has
    (a) no profit no loss
    (b) 25% loss
    (c) 25% profit
    (d) cannot be calculated

16. The temperature dropped 15°C in the last 30 days. If the rate of temperature drop remains the same, how many degrees will the temperature drop in the next ten days?
    (a) 10°C
    (b) 5°C
    (c) 20°C
    (d) 15°C

17. From a basket of mangoes when counted in twos there was one extra, counted in threes there were two extra, counted in fours there were three extra, counted in fives there were four extra, counted in sixes there were five extra. But counted in sevens there were no extra. Atleast how many mangoes were there in the basket?
    (a) 119
    (b) 110
    (c) 111
    (d) 126

18. Which of the following two digit number when added to 27 gets reversed?
    (a) 27
    (b) 24
    (c) 45
    (d) 70

19. The ratio of income to expenditure of Radha is 7 : 5. If she saves ₹ 2000 a month, what is her annual income?
    (a) ₹ 144000
    (b) ₹ 60000
    (c) ₹ 95000
    (d) ₹ 84000

20. The ratio of the length to breadth of a rectangular lawn is 3 : 5. It costs ₹ 3200 to fence. If at the rate of ₹ 2 a meter. What would be the cost of developing the lawn at the rate of ₹ 10 per square meter?
    (a) ₹ 1800000
    (b) ₹ 1500000
    (c) ₹ 1900000
    (d) ₹ 2100000

21. A, B and C divide an amount amongst themselves in the ratio of 4 : 7 : 9 respectively. If B's share in the amount is ₹ 2989 what is the total amount?
    (a) ₹ 9820
    (b) ₹ 8540
    (c) ₹ 2720
    (d) ₹ 8640

22. The average age of a class of 40 students is 18 yr. When the teachers age is also included to calculate the average age becomes 19 yr. What is the teacher's age?
    (a) 59 yr
    (b) 69 yr
    (c) 49 yr
    (d) 39 yr

23. What is the greatest number which when divides 3026 and 5053 leaves remainders 11 and 13 respectively?
    (a) 15
    (b) 30
    (c) 45
    (d) 60

24. Ravi purchased a chair at ₹ 500 and sold it at ₹ 550. What was his gain or loss per cent?
    (a) 10%
    (b) 20%
    (c) 30%
    (d) 40%

25. A certain distance is being covered in 28 h by walking with a speed of 5 km/h. If the speed is increased by 2 km/h, then in how much time the same distance will be covered?
    (a) 30 h
    (b) 15 h
    (c) 20 h
    (d) 25 h

26. A piece of wire 7/8 meter long broke into two pieces. One piece was 1/4 meter long. How long is the other piece?
    (a) 4/8 m
    (b) 5/8 m
    (c) 6/8 m
    (d) 7/8 m

27. What is the missing number in the sequence 2, 5, 10, 14, 18, 23, 26, 32, … ?
    (a) 33
    (b) 34
    (c) 36
    (d) 37

28. 30 men can do a piece of work in 16 days. In how many days 8 men can do the same work?
(a) 30 days   (b) 40 days
(c) 50 days   (d) 60 days

29. Ram, Shyam and Mohan runs at speed of 75, 50 and 30 m/min respectively. After how much time will they meet together for the first time running with the same speed?
(a) 5 h   (b) 2 h   (c) 3 h   (d) 5/2 h

30. Represent 26 kg 5 g using concept of decimals.
(a) 26.05 kg   (b) 26.005 kg
(c) 26.5 kg   (d) 26.0005 kg

31. At what rate, a sum of ₹ 6000 will amounts to ₹ 7800 is 5 yr?
(a) 3%   (b) 4%   (c) 5%   (d) 6%

32. What will be the depth of a cubical pond whose volume is 729m^3?
(a) 9 m   (b) 6 m   (c) 8 m   (d) 5 m

33. Evaluate $3 \times 7 + 4 - 6 \div 3 - 7 + 45 \div 5 \times 4 + 49$.
(a) 101   (b) 103   (c) 99   (d) 35

34. In what time a train whose length is 100 m moving with a speed of 60 km/h crosses a platform whose length is 150 m?
(a) 15 s   (b) 14 s   (c) 18 s   (d) 20 s

35. Ashu takes 12 days to complete the work. Pranav takes 10 days to complete the same work. Ashu, Pranav and Ramu take 5 days to complete the same work. How many days will Ramu take to complete the same work?
(a) 70 days   (b) 90 days   (c) 60 days   (d) 50 days

36. The LCM of two numbers is 28 times of their HCF. The sum of their LCM and HCF is 1740. If one number is 240 then what is the other number?
(a) 420   (b) 460   (c) 500   (d) 380

37. Four clocks rings at the time interval of 6s, 8s, 12s and 18s respectively. If they ring together at 12 AM then how many times will they ring together within the time span of 6 min?
(a) 6 times   (b) 4 times
(c) 7 times   (d) 5 times

38. What is the least multiple of 23 which when divided by 18, 21 and 24 leaves remainders 7, 10, and 13 respectively?
(a) 1240   (b) 3013   (c) 2364   (d) 7628

39. A milkman has two cans of milk containing 75 L and 45 L of milk respectively. What will be the measure of largest vessel that can measure the milk of the two cans exactly?
(a) 12 L   (b) 18 L   (c) 15 L   (d) 10 L

40. A table was purchased at ₹ 1000 and was sold at ₹ 800. What was gain or loss% in this transaction?
(a) 5%   (b) 10%   (c) 20%   (d) 30%

41. The average weight of 6 boys gets increased by 5kg if a boy with weight 20 kg is replaced by a new boy. What is the weight of new boy?
(a) 41 kg   (b) 50 kg   (c) 65 kg   (d) 49 kg

42. A man covers a distance of 40km. He covers first 10 km at 10km/h, second 10 km at 20km/h, third 10 km at 30km/h and last 10km at 40km/h. What is the average speed of man?
(a) 18.2 km/h   (b) 19.2 km/h
(c) 19.0 km/h   (d) 16.2 km/h

43. If area of rectangular garden of 5m breadth is 300 sq m, then what will be the length of garden?
(a) 60 m   (b) 70 m   (c) 80 m   (d) 90 m

44. If the square of a number is added to the square of 28 the result is 1808. What is the number?
(a) 66   (b) 50   (c) 32   (d) 16

45. Cost of a dozen pens is ₹ 180 and cost of 8 ball pens is ₹ 56. The ratio of the cost of a pen to the cost of a ball pen is?
(a) 15 : 7   (b) 180 : 56   (c) 1 : 1   (d) 8 : 15

46. A truck requires 108 L of diesel for covering a distance of 594 km. How much diesel will be required by the truck to cover a distance of 1650 km?
(a) 3000 L   (b) 108 L
(c) 300 L   (d) 165 L

47. Find the simple interest on ₹ 5000 at the rate of $7\frac{1}{2}$% for a period of 3 yr.
(a) ₹ 5000   (b) ₹ 6125   (c) ₹ 2000   (d) ₹ 1125

48. The angles of a triangle are in the ratio of 1 : 2 : 3. Find the values of the angles.
(a) 30°, 60°, 90°   (b) 15°, 45°, 120°
(c) 60°, 60°, 60°   (d) 45°, 45°, 90°

49. One number exceeds another number by 36. The sum of numbers is 48, then the numbers are
(a) 40, 08   (b) 36, 12
(c) 6, 42   (d) 32, 16

50. At which one of the following times is the angle between the hands of a clock exactly one straight angle?
(a) 12 AM   (b) 12 PM
(c) 9 : 15 AM   (d) 6 AM

Section B General Knowledge

51. Out of the following list of Param Vir Chakra (PVC) Awardees who was awarded with PVC during Kargil War?

(a) Lt. Col Ardeshir Burzorji Tarapore
(b) 2nd Lt. Arun Khetarpal
(c) Capt. Vikram Batra
(d) Maj. Somnath Sharma

52. Which state among the following has adopted Sanskrit as its one of the official languages?

(a) Himachal Pradesh   (b) Uttarakhand
(c) Rajasthan   (d) Uttar Pradesh

53. Who is the current Vice-President of India?

(a) Shri Narendra Modi
(b) Shri Venkaiah Naidu
(c) Shri Arun Jaitley
(d) Shri Ram Nath Kovind

54. A medical practitioner specialising in children and their diseases.

(a) Geologist   (b) Paediatrician
(c) Cardiologist   (d) Neurologist

55. A group of stars is called a

(a) Solar system   (b) Constellation
(c) Planets   (d) Comets

56. Which gas when solidified is commonly known as Dry ice?

(a) Carbon monoxide   (b) Nitrous oxide
(c) Carbon dioxide   (d) Hydrogen peroxide

57. The members of the Rajya Sabha can have a maximum tenure of how long?

(a) Five years   (b) Six years
(c) Seven years   (d) Two years

58. P Gopichand is associated with which Sport?

(a) Badminton   (b) Cricket
(c) Football   (d) Hockey

59. Which of the following company does not sell mobiles?

(a) Apple   (b) BSNL   (c) HP   (d) Sony

60. A vehicle capable of travelling over land and water is called

(a) Hovercraft   (b) Rovercraft
(c) Mowercraft   (d) Car

61. The space programme of Government of India is looked after by

(a) ISBT   (b) NTRO
(c) NABARD   (d) ISRO

62. The motto of the Indian Navy is

(a) Sarvatra Sarvottama Suraksha
(b) Sham No Varuna
(c) Valour and Wisdom
(d) Nabha Sparsham Deeptam

63. Which is the largest gland in human body?

(a) Salivary gland   (b) Lungs
(c) Liver   (d) Stomach

64. Who has written 'Sare Jahan Se Achchha'?

(a) Rabindra Nath Tagore
(b) Bankim Chandra Chatterjee
(c) Muhammad Iqbal
(d) Subhash Chandra Bose

65. Which is the deepest ocean?

(a) Indian ocean   (b) Arctic ocean
(c) Antarctic ocean   (d) Pacific ocean

66. Who fixes the salaries and the allowances of the Speaker of Lok Sabha?

(a) Council of Ministers
(b) President
(c) Parliament
(d) Judges of Supreme Court

67. Which article of Constitution provides Indian citizen 'Right to Equality'?

(a) Article 12   (b) Article 13
(c) Article 17   (d) Article 14

68. 1024 Kilo Bytes is equal to

(a) 8 Bits   (b) 1 Mega Byte (MB)
(c) 1 Giga Byte (GB)   (d) 1 Byte

69. Hirakud dam is built on the river

(a) Cauvery   (b) Mahanadi
(c) Krishna   (d) Sutlej

70. Deficiency of Iodine causes?

(a) Goitre   (b) Malaria
(c) Cataract   (d) Scurvy

71. Who is known as 'Iron man' of India?

(a) Jawaharlal Nehru
(b) Mahatma Gandhi
(c) Sardar Patel
(d) Subhash Chandra Bose

72. Which among of the following is not an Indian Sport?

(a) Kabbadi   (b) Kho-Kho
(c) Hockey   (d) Rugby

73. Those who study things that were made and used in the past, these people are called …… .

(a) Biologist   (b) Archaeologists
(c) Geologist   (d) Doctor

74. What is the ratio of width to the length of National Flag of India?

(a) 4 : 5   (b) 2 : 3
(c) 1 : 1   (d) 5 : 6

75. Where is Wagah Border located?

(a) Longewala, Rajasthan   (b) Moreh, Manipur
(c) Rann of Kutch, Gujarat   (d) Amritsar, Punjab

Section C English

Only for those attempting English Language.

Directions (Q. Nos. 76 and 77) *Choose the most appropriate option given against each question.*

76. Which word means nearly the same as 'scream'?
    (a) find   (b) stop
    (c) sell   (d) shout

77. Which word means nearly the same as 'happy'?
    (a) conditions   (b) disgusted
    (c) content   (d) ambitious

Directions (Q. Nos. 78-80) *Choose the appropriate options to complete the sentences.*

78. The men are working. Their …… are at home.
    (a) wife   (b) husbands
    (c) husband   (d) wives

79. Rahul works less …… than Mohan.
    (a) carefully   (b) more careful
    (c) careful   (d) careful as

80. It …… all day long yesterday.
    (a) was rained   (b) raining
    (c) rained   (d) has rained

Directions (Q. Nos. 81 and 82) *Rearrange the following words/group of words to make meaningful sentences.*

81. quite happy (A)/ I was (B)/ the first prize (C)/ to receive (D).
    (a) BADC   (b) ABCD
    (c) DCBA   (d) BACD

82. protect (A)/ we must (B)/ natural resources (C)/ our (D).
    (a) ABCD   (b) BADC
    (c) ACDB   (d) DCAB

Directions (Q. Nos. 83-86) *Choose the appropriate option.*

83. One who leads an austere life
    (b) Ruler   (b) Auditor
    (c) Ascetic   (d) Carpenter

84. A person who presents a radio/television programme.
    (a) Director   (b) Actress
    (c) Actor   (d) Anchor

85. Pick the gender of 'Lad'.
    (a) Lass   (b) Queen
    (c) Woman   (d) Dame

86. Choose the gender of 'Fox'.
    (a) Filly   (b) Goose   (c) Witch   (d) Vixen

Directions (Q. Nos. 87-95) *Fill in the blanks as direction given in the brackets.*

87. ……… always stood third in her class. (supply the correct pronoun)
    (a) You   (b) They
    (c) He   (d) She

88. All the candidates should bring …… own pen. (supply the correct pronoun)
    (a) everyone   (b) they
    (c) nobody   (d) their

89. Experience is the ……… teacher. (supply the correct adjective)
    (a) better   (b) good
    (c) best   (d) great

90. ……… a beautiful scene it is! (pick up the correct adverb)
    (a) What   (b) How
    (c) Always   (d) Never

91. Did you apply ……… this post? (supply the correct preposition)
    (a) to   (b) at   (c) for   (d) of

92. You should take care ………your health. (supply the correct preposition)
    (a) of   (b) in   (c) at   (d) to

93. He is rich ……… he is not happy. (supply the correct conjunction)
    (a) yet   (b) though
    (c) because   (d) but

94. Work hard ……… you will fail. (supply the correct conjunction)
    (a) or   (b) still   (c) because   (d) either

95. The child ……… for two hours. (select the correct form of verb)
    (a) has been sleeping   (b) have been sleeping
    (c) has slept   (d) will sleep

Directions (Q. Nos. 96-100) *Read the following passage and answer the questions.*

From far out in space, Earth looks like a blue ball. Since water covers three-fourths of the Earth's surface, blue is the colour we see most. The continents look brown, like small islands floating in the huge, blue sea. White clouds wrap around the Earth like a light blanket. The Earth is shaped like a sphere or a ball. It is 25,000 miles around! It would take more than a year to walk around the whole planet. A spaceship can fly around the widest part of the sphere in only 90 minutes.

Even though spaceships have travelled to the Moon, people cannot visit the Moon without special suits.

The Moon has no air or water. Plants and animals can't live there either. Astronauts first landed on the Moon in 1969. After that, there were six more trips to the Moon. They brought back Moon rocks, which scientists are still studying. There are holes or craters, all over the Moon's surface. Scientists believe that meteorites smashed into the Moon millions of years ago and formed the craters. The Sun is the closest star to Earth. A star is a hot ball of burning gas. The Sun looks very big because it is so close. But the Sun is just a medium-sized star. Billions of far-away stars are much bigger than our Sun. The burning gases from the Sun are so hot that they warm the Earth from 93 million miles away! Even though the Sun is always glowing, the night here on Earth is dark. That's because the Earth rotates or turns around, every 24 hours. During the day, the Earth faces the Sun, then we see light. During the night, the Earth turns away from the Sun, then it faces the darkness of space. Each day we learn more about the Earth, the Moon and the Sun.

96. Why is blue the colour we see most when looking at Earth from outer space?
(a) Because most of the Earth is covered in land.
(b) Because the Sun's rays make the Earth look blue.
(c) Because most of the Earth is covered in water.
(d) Because clouds wrap around the Earth.

97. What does 'formed' mean?
(a) hit
(b) made
(c) broke
(d) stopped

98. What causes daylight of Earth?
(a) The full Moon causes daylight.
(b) Daylight is caused by the Earth facing away from the Sun.
(c) The heat of the Sun's rays causes daylight.
(d) Daylight is caused by the Earth facing toward the Sun.

99. Which of the following sentences best describes the Sun?
(a) The Sun looks small because it is so far from Earth
(b) The Sun is a ball of burning gases that gives the Earth heat and light.
(c) The Sun is a small star.
(d) The Sun is not as hot as it looks.

100. Why did the astronauts bring rocks back from the Moon?
(a) Because they didn't know if they would return to the Moon ever again.
(b) Because they wanted to prove that they went to the Moon.
(c) Because they wanted to remember how the Moon looked.
(d) Because they wanted to study them and learn more about the Moon.

Answers

1	(b)	2	(a)	3	(a)	4	(c)	5	(b)	6	(a)	7	(a)	8	(b)	9	(b)	10	(a)
11	(c)	12	(a)	13	(b)	14	(b)	15	(c)	16	(b)	17	(a)	18	(c)	19	(d)	20	(b)
21	(b)	22	(a)	23	(c)	24	(a)	25	(c)	26	(b)	27	(b)	28	(d)	29	(d)	30	(b)
31	(d)	32	(a)	33	(a)	34	(a)	35	(c)	36	(a)	37	(d)	38	(b)	39	(c)	40	(c)
41	(b)	42	(b)	43	(a)	44	(c)	45	(a)	46	(c)	47	(d)	48	(a)	49	(c)	50	(d)
51	(c)	52	(b)	53	(b)	54	(b)	55	(b)	56	(c)	57	(b)	58	(a)	59	(b)	60	(a)
61	(d)	62	(b)	63	(c)	64	(c)	65	(d)	66	(c)	67	(d)	68	(b)	69	(b)	70	(a)
71	(c)	72	(d)	73	(b)	74	(b)	75	(d)	76	(d)	77	(c)	78	(d)	79	(a)	80	(c)
81	(a)	82	(b)	83	(c)	84	(d)	85	(a)	86	(d)	87	(d)	88	(d)	89	(c)	90	(a)
91	(c)	92	(a)	93	(d)	94	(a)	95	(a)	96	(c)	97	(b)	98	(d)	99	(b)	100	(d)

Hints & Solutions

1. Required number $= 7236 \times 56 = 405216$

New number $= 7236 \times 65$

$= 470340$

Required difference $= 470340 - 405216$

$= 65124$

2. $1 \div \left\{ \dfrac{1}{2} + \dfrac{1}{3} + \dfrac{1}{6} \div \left(\dfrac{3}{4} - \dfrac{1}{3} \right) \right\}$

$\Rightarrow 1 \div \left\{ \dfrac{1}{2} + \dfrac{1}{3} + \dfrac{1}{6} \div \left(\dfrac{9-4}{12} \right) \right\}$

$\Rightarrow 1 \div \left\{ \dfrac{1}{2} + \dfrac{1}{3} + \dfrac{1}{6} \times \dfrac{12}{5} \right\}$

$\Rightarrow 1 \div \left\{ \dfrac{1}{2} + \dfrac{1}{3} + \dfrac{2}{5} \right\} \Rightarrow 1 \div \left\{ \dfrac{15+10+12}{30} \right\}$

$\Rightarrow 1 \div \left\{ \dfrac{37}{30} \right\} = 1 \times \dfrac{30}{37} \Rightarrow \dfrac{30}{37}$

3.
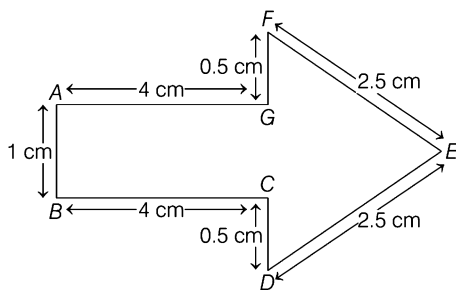
Perimeter of the figure

$= AB + BC + CD + DE + EF + FG + AG$

$= 1 + 4 + 0.5 + 2.5 + 2.5 + 0.5 + 4$

$= 15\,cm$

4. Area of floor not carpeted $=$ Total Area of floor

$\qquad\qquad\qquad\qquad\qquad - $ Area of carpet

$= (5 \times 4) - (3)^2 = 20 - 9 = 11\,m^2$

5. Smallest number divisible by 6, 12, 18 is LCM of 6, 12, 18.

2	6, 12, 18
2	3, 6, 9
3	3, 3, 9
3	1, 1, 3
	1, 1, 1

LCM $(6, 12, 18) = 2 \times 2 \times 3 \times 3 = 36$

Now on analysis options, 180 is the smallest one which is divisible by 36.

Hence, 180 will also be divisible by 6, 12, 18.

6. Let us take one angle of triangle be 90° and other two equal angles be 45° each, then $90° + 45° + 45° = 180°$.

It satisfies the angle sum property of triangle. Hence option (a) is the only option which satisfies the condition.

7. Let 'l' be the length and 'b' be the breadth of the rectangle.

$\therefore \qquad\qquad l = 5 + b \qquad\qquad \text{...(i)}$

Perimeter $= 50\,cm$

$\therefore \qquad\quad 2(l + b) = 50\,cm$

$\Rightarrow \qquad 2(5 + b + b) = 50$

$\Rightarrow \qquad\quad 2(5 + 2b) = 50$

$\Rightarrow \qquad\qquad 10 + 4b = 50$

$\Rightarrow \qquad\qquad\qquad 4b = 40$

$\Rightarrow \qquad\qquad\qquad b = 10\,cm$

$\therefore \qquad\qquad\qquad l = 10 + 5$

$\qquad\qquad\qquad\qquad = 15\,cm$

$\therefore$ Required area $= l \times b = 10 \times 15$

$\qquad\qquad\qquad = 150\,cm^2$

8. Number of days required by 20 persons to

complete the work $= \dfrac{12 \times 15}{20}$

$= 9$ days

9. Since two prime numbers doesn't have any common factors.

$\therefore$ The LCM of two prime numbers will be the product of numbers.

e.g. Let 2 and 3 be the two prime numbers, then LCM of (2, 3) $= 2 \times 3 = 6$

10. Total students $= 1000$

Students who do not ride the bus $= 1000 - 330$

$\qquad\qquad\qquad\qquad\qquad = 670$

$\therefore$ Required percentage $= \dfrac{670}{1000} \times 100$

$= 67\%$

11. Time taken to complete the journey $=$ Time taken from A to B + Time taken from B to A + 1 h (halt).

$\therefore$ Time taken to complete the journey

$= \dfrac{616}{112} + \dfrac{616}{112} + 1$

$= 2 \times \dfrac{616}{112} + 1 = \dfrac{1232}{112} + 1$

$= 11 + 1 = 12\,h$

12. Let the cost price of the table be ₹ x.

$$\therefore \quad x - \frac{16}{100}x = 3360$$

$$\Rightarrow \quad \frac{100x - 16x}{100} = 3360$$

$$\Rightarrow \quad \frac{84x}{100} = 3360$$

$$\therefore \quad x = \frac{3360 \times 100}{84}$$

$$\therefore \quad x = ₹\,4000$$

13. Total number of rooms = 17
Total number of fans = $17 \times 2 = 34$
Total number of LED bulbs = $17 \times 4 = 68$

Total switches required = $34 + \dfrac{68}{2}$

$$= 34 + 34 = 68$$

14. Required other number = $\dfrac{12.194}{4.69}$

$$= 2.6$$

15. Total cost price incurred by Rahul (CP)
$$= ₹\,(600 + 200) = ₹\,800$$

Selling price (SP) = ₹ 1000

$\therefore \qquad$ SP > CP

$\therefore$ Rahul incurred profit.

Profit percentage = $\dfrac{1000 - 800}{800} \times 100$

$$= \frac{200}{800} \times 100$$

$$= 25\%$$

16. Rate of temperature drop = $\dfrac{15}{30} = 0.5°$ C/day

$\therefore$ Temperature drop in next 10 days
$$= 0.5 \times 10 = 5° \text{ C}$$

17. Minimum number of mangoes are those which is exactly divisible by 7 and leaves remainder 1, 2, 3, 4, 5 when divided by 2, 3, 4, 5, 6 respectively.
$\therefore$ The required number is LCM of 7,
$(2-1), (3-2) (4-3), (5-4), (6-5)$.
$\Rightarrow$ LCM of $(7, 1, 1, 1, 1, 1) = 7$
Option (a) satisfies all the conditions, hence 119 is the required number of mangoes.

18. Given number = 27
Reversed number = 72
$\therefore$ The number to be added = $72 - 27$
$$= 45$$

19. Let the monthly income be ₹ 7x.
Monthly expenditure be ₹ 5x.

$\therefore \qquad 7x - 5x = 2000$

$$2x = 2000$$

$$x = ₹\,1000$$

$\therefore$ Annual income = ₹ $7 \times 1000 \times 12$
$$= ₹\,7000 \times 12 = ₹\,84000$$

20. Let the length of the rectangle be 3x.
Let the breadth of the rectangle be 5x.

$\therefore$ Perimeter = $\dfrac{3200}{2} = 1600\,\text{m}$

$\therefore 2(3x + 5x) = 1600$

$$16x = 1600$$

$$x = 100$$

$\therefore$ Area of lawn = $3x \times 5x = 15x^2$
$$= 15(100)^2 = 150000 \text{ m}^2$$

$\therefore$ Cost of developing the lawn = ₹ 10×150000
$$= ₹\,1500000$$

21. Let the amount of A, B and C be ₹ 4x, ₹ 7x and ₹ 9x respectively.
B's share is ₹ 2989.

$\therefore \qquad 7x = 2989$

$$\Rightarrow \qquad x = \frac{2989}{7} = ₹\,427$$

$\therefore$ Total amount = $(4x + 7x + 9x) = ₹\,20x$
$$= ₹\,20 \times 427 = ₹\,8540$$

22. Let the age of the teacher be x yr.
Total age of the class = $40 \times 18 = 720$ yr
$\therefore$ According to the question,

$$\frac{720 + x}{41} = 19$$

$\Rightarrow \qquad 720 + x = 41 \times 19 \Rightarrow 720 + x = 779$

$\therefore \qquad x = 779 - 720 \Rightarrow x = 59$

$\therefore$ Teacher's age is 59 yr.

23. Required number is HCF of $(3026 - 11)$ and $(5053 - 13)$.
$\therefore$ HCF of 3015 and 5040

```
3015) 5040 (1
      3015
      2025) 3015 (1
            2025
             990) 2025 (2
                  1980
                   45) 1980 (44
                       1980
                        ×
```

$\therefore$ Required number = 45

24. Cost price (CP) of a chair $= ₹\,500$

Selling price (SP) of a chair $= ₹\,550$

Since SP > CP therefore, profit is incurred.

Profit $=$ SP $-$ CP $= 550 - 500 = 50$

Profit percentage $= \dfrac{\text{Profit} \times 100}{\text{CP}}\%$

$= \dfrac{50 \times 100}{500}\% = 10\%$

25. Total distance $= 5 \times 28 = 140\,\text{cm}$

New speed $= (5 + 2) = 7\,\text{km/h}$

New time $= \dfrac{140}{7} = 20\,\text{h}$

26. The length of other piece $= \dfrac{7}{8} - \dfrac{1}{4} = \dfrac{7 - 2}{8} = \dfrac{5}{8}\,\text{m}$

27.
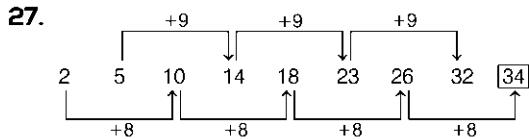
28. $M_1 = 30,\ D_1 = 16$

$M_2 = 8,\ D_2 = ?$

$\therefore \quad M_1 D_1 = M_2 D_2$

$30 \times 16 = 8 \times D_2$

$\therefore \quad D_2 = \dfrac{30 \times 16}{8} = 60\,\text{days}$

$\therefore 8$ men will take 60 days to complete the work.

29. They will meet after LCM (75, 50, 30) time.

2	75, 50, 30
3	75, 25, 15
5	25, 25, 5
5	5, 5, 1
	1, 1, 1

$\therefore$ LCM (75, 50, 30) $= 2 \times 3 \times 5 \times 5 = 150$ min

$= \dfrac{150}{60} = \dfrac{5}{2}\,\text{h}$

30. Required decimals $= 26\text{kg} + 5\text{g} = 26\text{kg} + \dfrac{5}{1000}\text{kg}$

$= 26\text{kg} + 0.005\text{kg} = 26.005\,\text{kg}$

31. Let the rate of interest be r% per annum.

$\therefore$ Simple interest $= ₹(7800 - 6000) = ₹\,1800$

$SI = \dfrac{Prt}{100}$

$\therefore \quad 1800 = \dfrac{6000 \times r \times 5}{100}$

$r = \dfrac{1800 \times 100}{6000 \times 5} \Rightarrow r = 6\%$

32. Depth of cubical pond $= \sqrt[3]{729}$

$= 9\,\text{m}$

33. $3 \times 7 + 4 - 6 \div 3 - 7 + 45 \div 5 \times 4 + 49$

$\Rightarrow 21 + 4 - \dfrac{6}{3} - 7 + \dfrac{45}{5} \times 4 + 49$

$\Rightarrow 25 - 2 - 7 + 36 + 49 \Rightarrow 110 - 9 \Rightarrow 101$

34. Given, Length of train $= 100\,\text{m}$,

Length of platform $= 150\,\text{m}$,

Speed $= 60\,\text{km/h}$

$60 \times \dfrac{5}{18} = \dfrac{50}{3}\,\text{m/s}$

$\therefore$ Required time $= \dfrac{(100 + 150)}{\dfrac{50}{3}} = \dfrac{250 \times 3}{50} = 15\,\text{s}$

35. $\because$ Ashu's one day work $= \dfrac{1}{12}$,

Pranav's one day work $= \dfrac{1}{10}$ and

Ashu, Pranav and Ramu's one day work $= \dfrac{1}{5}$

$\therefore$ Ramu's one day work $= \dfrac{1}{5} - \left(\dfrac{1}{12} + \dfrac{1}{10} \right)$

$\dfrac{1}{5} - \dfrac{1}{12} - \dfrac{1}{10} = \dfrac{12 - 5 - 6}{60}$

$= \dfrac{12 - 11}{60} = \dfrac{1}{60}$

$\therefore$ Time taken by Ramu $= 60$ days

36. Let the HCF be x.

$\therefore$ LCM will be 28x.

Now, $x + 28x = 1740$

$29x = 1740$

$x = \dfrac{1740}{29} = 60$

HCM $= 60$, LCM $= 28 \times 60 = 1680$

$\therefore$ Required other number $= \dfrac{\text{HCF} \times \text{LCM}}{\text{First number}}$

$= \dfrac{60 \times 1680}{240} = 420$

37. Time interval after which the bells ring together is LCM (6, 8, 12, 18) i.e.

2	6, 8, 12, 18
2	3, 4, 6, 9
2	3, 2, 3, 9
3	3, 1, 3, 9
3	1, 1, 1, 3
	1, 1, 1, 1

$\text{LCM} = 2 \times 2 \times 2 \times 3 \times 3 = 72 \, s$

So in 6 min they will ring $= \dfrac{6 \times 60}{72} = 5$ times

38. $\text{LCM} \,(18, 21, 24) = 504$

Now, $\quad 18 - 7 = 11$

$\qquad\qquad 21 - 10 = 11$

$\qquad\qquad 24 - 13 = 11$

∴The required number $= 504K + 11$

Put $K = 6$ satisfies the option (b).

$\qquad = 504(6) - 11 = 3024 - 11 = 3013$

39. The measure of largest vessel which can measure the two cans is HCF of 75 and 45.

∴ HCF (75, 45) is

$$45) \; 75 \; (1$$
$$\quad \underline{45}$$
$$\quad 30) 45 (2$$
$$\qquad \underline{30}$$
$$\qquad 15) 30 (2$$
$$\qquad\quad \underline{30}$$
$$\qquad\qquad \times$$

Required capacity of vessel is 15 L.

40. Cost price (CP) of table $= ₹ 1000$

Selling price (SP) of table $= ₹ 800$

Since SP $<$ CP

∴Loss $= \text{CP} - \text{SP} = ₹(1000 - 800) = ₹ 200$

∴Loss percentage $= \dfrac{200}{1000} \times 100 = 20\%$

41. Increase in total weight $= 6 \times 5 = 30 \, kg$

∴ Weight of the new boy $= 30 + 20 = 50 \, kg$

42. Average speed $= \dfrac{\text{Total distance travelled}}{\text{Total time taken}}$

$= \dfrac{40}{\dfrac{10}{10} + \dfrac{10}{20} + \dfrac{10}{30} + \dfrac{10}{40}}$

$= \dfrac{40}{\left(\dfrac{25}{12}\right)} = \dfrac{40 \times 12}{25} = 19.2 \, km/h$

43. The length of the garden $= \dfrac{300}{5} = 60 \, m$

44. Let the number be x.

∴ $\quad x^2 + (28)^2 = 1808$

$\qquad x^2 = 1808 - 784$

$\qquad x^2 = 1024$

$\qquad x = \sqrt{1024}$

$\qquad x = 32$

45. Cost of each pen $= \dfrac{180}{12} = ₹ 15$

Cost of each ball pen $= \dfrac{56}{8} = ₹ 7$

∴Required ratio $= \dfrac{15}{7} = 15 : 7$

46. Diesel required per kilometer $= \dfrac{108}{594}$

$= 0.1818 \, L$

∴ Total diesel required $= 1650 \times 0.1818$

$\approx 300 \, L$

47. Given, $P = ₹ 5000, \; r = 7\dfrac{1}{2}\%, \; t = 3 \, yr$

Simple interest (SI) $= \dfrac{\text{Prt}}{100}$

$= \dfrac{5000 \times 7\dfrac{1}{2} \times 3}{100}$

$= \dfrac{5000 \times 15 \times 3}{100 \times 2} = ₹ 1125$

48. Value of first angle of triangle

$= \dfrac{1}{1 + 2 + 3} \times 180° = \dfrac{1}{6} \times 180° = 30°$

Value of second angle of triangle

$= \dfrac{2}{1 + 2 + 3} \times 180°$

$= \dfrac{2}{6} \times 180° = 60°$

Value of third angle of triangle

$= 180° - (30° + 60°) = 90°$

49. Let the first number be x.

∴ The second number is x + 36.

∴ $x + x + 36 = 48$

$\qquad 2x + 36 = 48$

$\qquad\quad 2x = 12$

$\qquad\quad\; x = 6$

∴ First number, x $= 6$

Second number = x + 36 = 6 + 36 = 42

50. At 6 Am, the angle between the hands of clock exactly one straight angle.
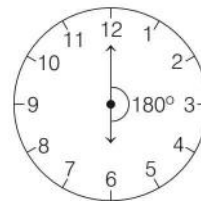
51. Param Vir Chakra is the highest gallantry award, awarded for displaying distinguished acts of valour during wartime.

Four soldiers were bestowed with Param Vir Chakra during Kargil War (1999) as follows

Captain Vikram Batra, **Lieutenant** Manoj Kumar Pandey, **Rifleman** Sanjay Kumar and **Grenadier** Yogendra Singh Yadav. So, option (c) is the correct answer.

52. Uttarakhand has adopted Sanskrit as its one of the official language. Recently (February, 2019), Himachal Pradesh has also declared Sanskrit as second language of the state. Sanskrit is classical language of India, comes under Indo-European language group.

53. Shri Venkaiah Naidu is the current Vice-President of India.

In Indian political system, the Vice-President occupies the second highest office in the country. He acts as a President when vacancy occurs in the office of the President. He is also the ex-officio Chairman of Rajya Sabha.

54. A medical practitioner specialising in children and their diseases is known as paediatrician.

Geologist studies the matter that constitute the Earth.

Cardiologist deals with disorder of heart and **Neurologist** deals with disorder of nervous system.

55. A constellation is group of stars that create a recognisable pattern in sky. The International Astronomical Union has recognised 88 constellations till date.

Comets are small frazile, irregularly shaped bodies composed of a mixture of non-volatile grains and frozen gases.

56. Dry ice is frozen carbon dioxide. It has a very nice feature of sublimation as when it break down it turns directly into carbon dioxide gas rather than a liquid.

57. The tenure of the Rajya Sabha's member is 6 years. Its maximum strength is fixed at 250, 238 to be representives of State and Union Territories, and 12 are nominated by the President. They are elected by the elected members of the State Assemblies and Union Territory of Delhi and Puducherry.

58. Pullela Gopichand is a former badminton player. At present, he is the Chief National Coach for the Indian Badminton team.

59. BSNL company does not sell mobiles

60. A hovercraft is an amphibious craft which can travel over land, water, muddy and other surfaces.

61. The space programme of Government of India is looked after by ISRO (Indian Space Research Organisation).

It was established in 1969, headquartered at Bengaluru. Current chairperson is Dr. K. Sivan.

62. "Sham No Varunah (Sanskrit) or May the Lord of Water be Auspicious unto us" is the motto of the Indian Navy.

Navy day is celebrated every year on 4th December.

63. The largest gland in human body is liver. Its weight is approximately 1.5 to 2 kg.

It secretes bile juice, important for digestion and also production of fibrinogen protein takes place in liver.

64. Muhammad Iqbal had written 'Sare Jahan Se Achchha' for undivided India. He was also a politician and philosopher.

He cherished the idea of separate Pakistan, and also known as 'Spritual Father of Pakistan'.

65. The deepest ocean is Pacific ocean with an average depth of 4280 m and deepest point is Mariana or Challenger deep. Also, it is largest ocean of the world.

The **Atlantic ocean** has the longest coastline and is the second largest ocean.

The **Indian ocean** is deeper than Atlantic ocean.

The **Arctic ocean** is smallest of all the ocean.

66. The salaries and allowances of the speaker of Lok Sabha are fixed by Parliament, moreover they are charged on the consolidated fund of India. The current speaker of Lok Sabha is Sumitra Mahajan.

67. The Article 14 of the Part III of Constitution provides 'Right to Equality'. As per Article 14, state shall not deny to any person equality before the law or the equal protection of the laws within the Territory of India.

Article 12 Definition of state.

Article 13 Law inconsistent with Fundamental Rights.

Article 17 Abolition of untouchability.

68. 8 Bits = 1 Byte
1024 Byte = 1 Kilo Byte (KB)
1024 KB = 1 Mega Byte (MB)
1024 MB = 1 Giga Byte (GB)

69. The Hirakud dam is built on the river Mahanadi which originates from Sihawa, Raipur and drains through the states of Chattisgarh and Odisha. This dam is the longest dam in India.

70. Goitre is caused due to the deficiency of Iodine. It result in a swelling of the thyroid gland that causes a lump to form in the front of the neck.

71. Sardar Patel is known as 'Iron man' and 'Bismarck' of India. He accomplished the task of Indian unification, contributed in freedom struggle and development of modern India after Independence. He received the title 'Sardar' during Bardoli Satyagraha of 1928.

72. Kabbadi, Kho-Kho and Hockey are Indian sports except Rugby. It originated in England.
Number of Players in these games are Kabbadi (7), Kho-Kho (9), Hockey (11) and Rugby (15).

73. Archaeologist study things that were made and used in the past.

74. The National flag of India was adopted on 22nd July, 1947. Designed by Pingali Venkayya it has a dimension of 2 : 3 (ratio of width to the length). It has three colours-Saffron (Renunciation), White (Path of truth) and Green (Soil and other form of life). The 'Ashok Chakra' at the centre is the wheel of the law of Dharma.

75. Wagah border is located along Indo-Pak border in Amritsar, Punjab.

76. **Shout** is similar in meaning to the word scream. Both words mean to give a long loud cry or make a loud high-pitched sound.

77. **Content** is similar in meaning to the word happy. Both means feeling or showing pleasure or contentment.

78. **Wives** is the correct word to be filled in the blank. Plural form of 'wife' i.e 'wives' is suitable to be used as per the given sentence.

79. **Carefully** is the correct word for the blank. Here, carefully is an adverb which is modifying the verb 'works'.

80. **Rained** is appropriate word here as the sentence is in Simple Past tense. So, we will use past form of verb 'rained' here.

81. **BADC** is the correct sequence to make a meaningful sentence. The sentence will be 'I was quite happy to receive the first prize'.

82. **BADC** is the correct sequence to make a meaningful sentence. The sentence will be 'We must protect our natural resources'.

83. **Ascetic** is a person who leads an austere life. An ascetic person has a way of life that is simple and strict, usually because of their religious beliefs.

84. A person who presents and coordinates a television or radio programme is called an **Anchor**.

85. **Lass** is feminine gender of **lad** which is a masculine gender. The word 'lad' means a boy or young man. The word 'lass' means a girl or young woman.

86. **Vixen** is a female fox and fox is a masculine gender. The fox is a carnivorous animal of the dog family with a pointed muzzle and bushy tail and is known for its cunningness.

87. **She** is the correct pronoun which is subjective in nature. The other pronoun used here is 'her' (objective pronoun) which gives us an indication that here, the talk is about a girl.

88. **Their** is the suitable pronoun as all candidates means more than one or two so use of pronoun 'their' is appropriate here.

89. **Best** is the correct adjective to be used here. It is in superlative degree.

90. Use of adverb **what** is appropriate here as it makes a meaningful exclamatory sentence. 'what' in exclamation emphasises something surprising or remarkable.

91. **For** is the appropriate preposition to be used here in the blank. It suggests here 'in respect of' or 'with regard to'.

92. **Of** is the correct preposition to be used here. **of** suggests relationship between a part and a whole.

93. Use of **but** is appropriate here. It is a coordinate conjunction which shows the contrast of a situation.

94. **or** is the correct coordinate conjunction to be used here. Use of **or** here suggests a condition or consequence.

95. **Has been sleeping** is the correct form of verb to be used here as the sentence is of Present Perfect Continuous Tense, which suggests a particular time frame.

96. We see blue colour while looking at Earth from outer space because most of the Earth is covered with water and its colour is blue. Earth looks like a blue ball from outer space.

97. From given options **made** is the most suitable meaning of the word 'formed' which means 'to make or be made into a specific form or shape'.

98. Daylight is caused on Earth when it faces the Sun which is a hot ball of burning gas.

99. 'The Sun is ball of burning gases that gives the Earth heat and light' best describes the Sun.

100. The astronauts brought rocks back from the Moon because they wanted to study them and learn more about the Moon.

Sainik School

Entrance Exam (Class 6)

Solved Paper 2019

Time : 2 hrs   Marks : 250
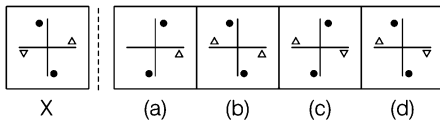
Instructions

1. This paper contains 25 questions of 2 marks each.
2. Write your answers in Blue/Black ink only in the given OMR sheet. Do not use pencil.
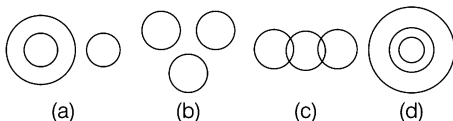
Paper 2

Intelligence Test

1. If you see the problem figure in the mirror, which figure out of the four figures a, b, c and d will be the mirror image of figure 'X'?

2. Choose the word which is least like the other words in the group.
(a) PICTURE   (b) POSTER
(c) BOOK   (d) SCENERY

3. Which of the following diagram indicates the best relation between Travellers, Train and Bus?

4. If CAR is to PETROL, then TELEVISION is to……
(a) ANTENNA   (b) TRANSMISSION
(c) ENTERTAINMENT   (d) ELECTRICITY

5. Which figure among the four figures a, b, c and d would replace the question mark (?) in figure 'X'?
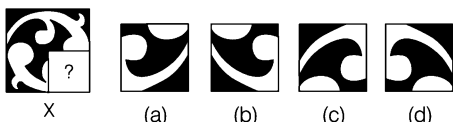
6. A class of boys stands in a single line. One boy is nineteenth in order from both the ends. How many boys are there in the class?
(a) 27   (b) 37   (c) 38   (d) 39

7. If you fold the transparent paper along the dotted line Figure 'X' which alternative figure from a, b, c and d would you get?
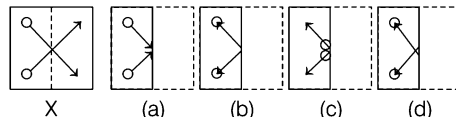
8. If SCHOOL is to EDUCATION then BANK is to…….
(a) ATM   (b) CHEQUE (c) LOAN   (d) LOCKER

9. If the given word is seen in mirror, which alternative would resemble its mirror image?
<div align="center">SHARE</div>

(a) ƎAAHƧ   (b) ƎЯAHƧ
(c) ƧAAHƎ   (d) ƎƧAHƧ

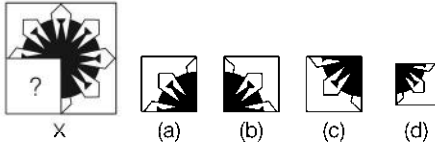**10.** Choose the alternative that resembles the water image of the given alpha-numeric series below.
<div align="center">HR2642O</div>

(a) OƧ4ϛ4ᴙH   (b) HᴙϚϛϠ2O
(c) OϛϠϚᴙH   (d) OƧϛϠᴙH

11. Choose the word which is least like the other words in the group.
(a) EARTH   (b) SUN
(c) MERCURY   (d) JUPITER

12. Which figure among the four alternatives a, b, c and d would replace the question mark (?) in the figure X?

13. If all directions are rotated clockwise by 90° angle i.e North is changed to West, East to North and to on, then what will come in place of North-West?
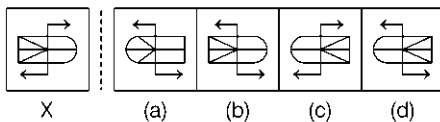
(a) South- West   (b) North- East
(c) South- East   (d) East- West

14. Choose the word which can be formed from the given word.

INFRASTRUCTURE

(a) RUPTURE   (b) SCULPTURE
(c) FRACTURE   (d) VULTURE

15. If you see the problem figure in the mirror along the dotted line, which figure out of the four figures a, b, c and d will be the mirror image of figure 'X'.

16. Choose the word which is least like the other words in the group.

(a) STUDENT   (b) LAWYER
(c) MECHANIC   (d) ENGINEER

17. If you see the problem figure 'X' in the mirror, which figure out of the four figures a, b, c and d will be the mirror image of it
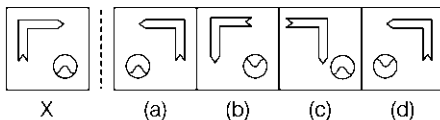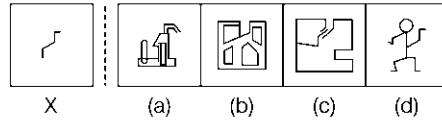
18. If '+' means '÷', '÷' means '−', '−' means '×' and '×' means '+', then what would be the answer of the equation?

$$12 + 6 \div 3 - 2 \times 8 =$$

(a) −2   (b) 2   (c) 4   (d) 8

19. Figure 'X' is embedded in any one of the four alternative figures a, b, c or d. Find the alternative which contains figure 'X' as its part.

20. If '÷' means '×', '×' means '+', '+' means '−' and '−' means '÷' then what would be the answer of the equation?
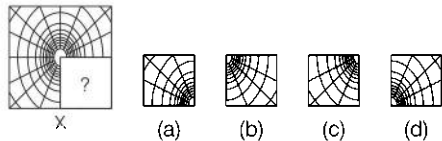
$$16 \times 3 + 5 - 2 \div 4 = ?$$
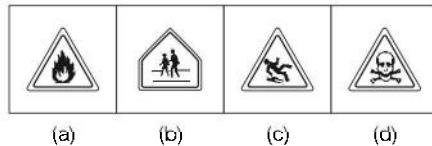
(a) 9   (b) 10
(c) 19   (d) None of these

21. Nitin ranks eighteenth from the top in a class of 49 students. What is his rank from the last?

(a) 18   (b) 19
(c) 31   (d) 32

22. Which figure among the four alternatives a, b, c and d would replace the question mark (?) in the figure 'X'?

23. Find out the figure which does not belong to the group of other figures.

24. Find the missing number in the number series given below.

6, 11, 21, 36, 56,......?

(a) 42   (b) 51
(c) 81   (d) 91

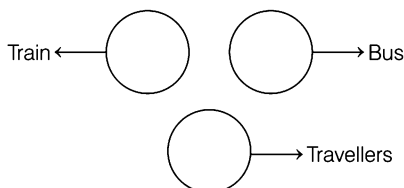**25.** Find the missing number that has same relation to 26 as 37 has to 19.

19 : 37 :: 26 : ?

(a) 52   (b) 51
(c) 46   (d) 43

Answers

1	(c)	2	(c)	3	(b)	4	(d)	5	(a)	6	(b)	7	(b)	8	(c)	9	(a)	10	(d)
11	(b)	12	(c)	13	(a)	14	(c)	15	(d)	16	(a)	17	(a)	18	(c)	19	(d)	20	(a)
21	(d)	22	(b)	23	(b)	24	(c)	25	(b)										

Hints & Solutions

1. Image (c) will be the mirror image of the figure X.

2. Except Book, all the others are same.

3.

4. As CAR is run on PETROL, similarly TELEVISION is run on ELECTRICITY.

5. The figure (a) will replace the question mark (?) in figure X.

6. Number of boys in the class = Position of boy from beginning + Position of boy from end − 1.
$$= 19 + 19 - 1 = 37$$

7. On folding the transparent paper along the dotted line of figure X answer figure (b) is obtained.

8. As, SCHOOL provides EDUCATION, similarly BANK provides LOAN.

9. If the given word is seen in mirror, then it will resemble the image given in option (a).

10. The answer figure (d) will resemble the water image of the given series.

11. Sun is a star whereas Earth, Mercury and Jupiter are planets.

12. The figure given in option (c) will come at the place of question mark (?) in the given figure X.

13. According to the question,
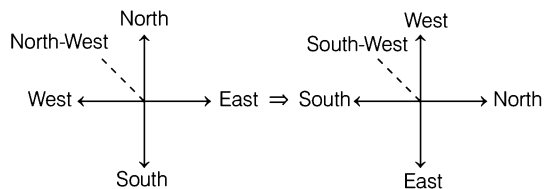
∴ In place of North-West, there will be South-West.

14. The word FRACTURE can be formed from INFRASTRUCTURE as its all the alphabets are present in the given word.

15. The answer figure (d) will be the mirror image of the figure X.

16. Except STUDENT, all the others are professions.

17. The answer figure (a) will be the mirror image of the figure X.

18. Given equation, $12 + 6 \div 3 - 2 \times 8$

According to the question, on changing signs, we get
$$12 \div 6 - 3 \times 2 + 8$$
$$= 2 - 3 \times 2 + 8$$
$$= 2 - 6 + 8$$
$$= 10 - 6 = 4$$

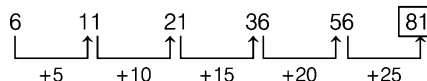**19.** The given figure X is embedded in figure D.
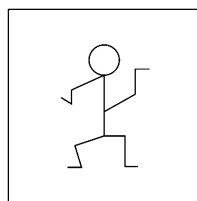
20. Given equation, $16 \times 3 + 5 - 2 \div 4$

According to the question, on changing signs, we get
$$16 + 3 - 5 \div 2 \times 4 = ?$$
$$\therefore \quad ? = 16 + 3 - \frac{5}{2} \times 4$$
$$= 16 + 3 - 5 \times 2$$
$$= 16 + 3 - 10$$
$$= 19 - 10 = 9$$

21. Nitin's rank from the last
$$= \text{Total students} - \text{Rank from top} + 1$$
$$= 49 - 18 + 1 = 32$$

22. The answer figure (b) will come at the place of question mark (?) in the figure X.

23. Except figure in (b), in all the other figures, the outer figure is triangle, while in figure (b) the outer figure is pentagon.

24.

25. As, $19 \times 2 - 1 = 37$

Similarly, $26 \times 2 - 1 = 51$