Class – VI

School Accelerated Program

ENTRANCE TEST CUM SCHOLARSHIP TEST (Sample Paper-2)

[Time: 1 Hour 50 Min] **[Max Marks: 400]**

A. *General:*

1. *This booklet is a Question Paper containing 100 questions.*
2. ***Blank Papers, Clipboards, Log Tables, slide rules, calculators, cellular phones, pagers and electronic gadgets** in any form are not allowed to be carried inside the examination hall.*
3. *The answer sheet, a machine-readable optical mark recognition sheet (OMR Sheet), is provided separately.*
4. *DO NOT TAMPER WITH THE OMR OR THE BOOKLET.*
5. *Please fill your roll number correctly in the OMR sheet (answer sheet).*
6. *Both Question Paper and OMR Answer Sheet will be submitted after completion of this examination.*

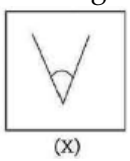
B. *Question Paper Format and marking scheme:*

1. *The Question Paper consists of five parts (Part I: MAT, Part II: Physics, Part III: Chemistry, Part IV: Biology, Part V: Mathematics).*
2. ***Each Question carries +4 marks for correct answer and -1 mark for incorrect answer.***

MAT

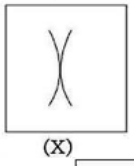
Direction (Qs. 1-2): In each of the following questions, you are given a figure (*X*) followed by four alternative figures (a), (b), (c) and (d) such that fig. (X) is embedded in one of them. Trace out the alternative figure which contains fig. (*X*) as its part.

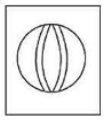
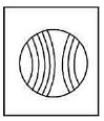
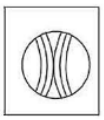
1.



(a) (b) (c) (d)

2.



(a)  (b) (c)  (d) 

3. Jaya's position from the left in a row of students is 12th and Rekha's position from the right is 20th. After interchanging their positions Jaya becomes 22nd from the left. How many students are there in the row?

(a) 30 (b) 31 (c) 41 (d) 34

4. Manish ranked sixteenth from the top and twenty-ninth from the bottom among those who has passed an examination. Six boys did not participate in the examination and five failed in it. How many boys were there in the class?

(a) 40 (b) 44 (c) 50 (d) 55

Directions (Q5): Following question is based on the following alphabet series

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

5. Which alphabet comes immediately before the sixth alphabet from the right extreme of the given alphabets?

(a) E (b) F (c) G (d) *U*

6. In the given question there are two statements followed by two conclusions numbers I & II. You have to take the given two statements to be true even if they seem to be at variance from commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts.

Statements: All pens are roads. All roads are houses.

Conclusions:

I. All houses are pens. II. Some houses are pens.

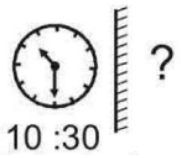
(a) Only I is true (b) Only II is true

(c) Both are true (d) Both are false

7. Find the correct option for the mirror image for the following question.

(a) (b) (c) (d)

8. Rotate the mirror image of the given clock 90° clockwise and the time will be.



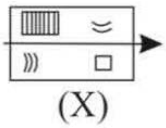
(a) 4: 45 (b) 5: 45 (c) 1:30 (d) 2:30

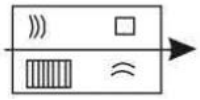
9. Find the correct option for the water image for the following question.

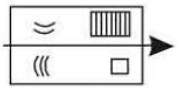
(a) PΓƎDϽE (b) ЬΓƎDϽE

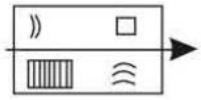
(c) ЬΓEDϽE (c) ЬΓƎDϽE

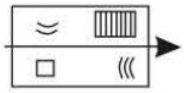
10. Find the correct option for the water image for the following question.



(a) 

(b) 

(c) 

(d) 

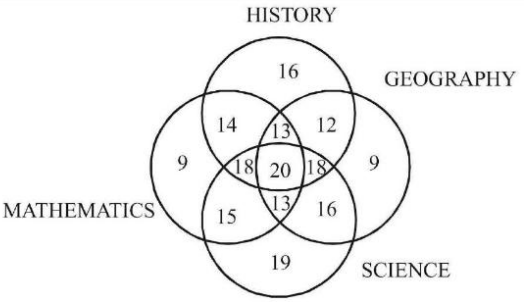
11. If in a certain code, HAT is 782, RABBIT is 681192 . Then how will HABIT be coded as ?

(a) 78139 (b) 78192 (c) 68192 (d) 78129

12. If REASON is coded as 5 , BELIEVED as 7 , what is the code number of GOVERNMENT?

(a) 6 (b) 8 (c) 9 (d) 10

Directions (Qs. 13-14) Refer to the following Venn diagram :



13. The number of students who took any three of the above subjects was

(a) 62 (b) 63 (c) 64 (d) 66

14. The number of students in total, who took History or Mathematics or Science, was

(a) 183 (b) 190 (c) 424 (d) 430

Directions (Qs. 15-16) Read the following information carefully to answer the questions.

(i) ' *A*$*B* ' means ' *A* ' is mother of ' *B* '

(ii) ' *A* # *B* ' means ' *A* ' is father of ' *B* '

(iii) ' *A* @ *B* ' Means ' *A* ' is husband of ' *B* '

(iv) ' *A*%*B* ' means ' *A* ' is daughter of ' *B* '

15. P@Q$M# T indicates what relationship of P with T

(a) Paternal grandmother (b) Maternal grandmother

(c) Paternal grandfather (d) Maternal grandfather

16. Which of the following expressions indicates ' R is the sister of H '?

(a) H $ D @ F # R (b) R%D@ F$H

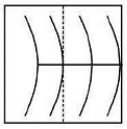
(c) $R\$D@F\#H$ (d) $H\%D@F\$R$

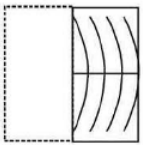
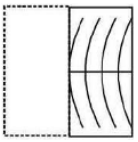
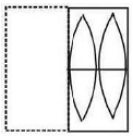
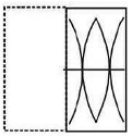
17. Deepak said to Nitin, " That boy playing football is the younger of the two brothers of the daughter of my father's wife "How is the boy playing football related to Deepak ?

(a) Son (b) Brother (c) Cousin (d) Niece

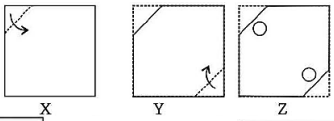
18. In the following question, find from amongst the four response figures, the one which resembles the pattern formed when the transparent sheet, carrying a design, is folded along the dotted line.

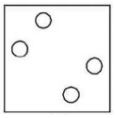
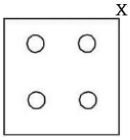
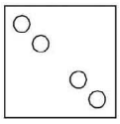
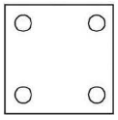
Transparent Sheet



(a)  (b)  (c)  (d) 

19. Consider the three figures, marked X, Y, and Z showing one fold in X, another in Y and the cut in Z. From amongst the four alternative figures a, b, c and d, select the one showing the unfolded position of **Z**.



(a)  (b)  (c)  (d) 

Direction (Qs. 20-22) : Complete the series

20. $\frac{1}{81}, \frac{1}{54}, \frac{1}{36}, \frac{1}{24}, ?$

(a) $\frac{1}{52}$ (b) $\frac{1}{9}$ (c) $\frac{1}{16}$ (d) $\frac{1}{18}$

21. 3,5,5,19,7,41,9, ?

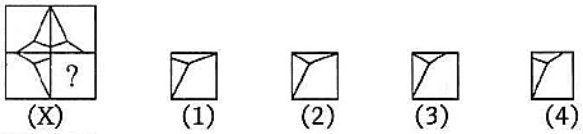
(a) 71 (b) 61 (c) 72 (d) 69

22. Q1F S2E U6D W21C?

(a) Y 66 B (b) Y 88 B (c) Z 88 B (d) Y 44 B

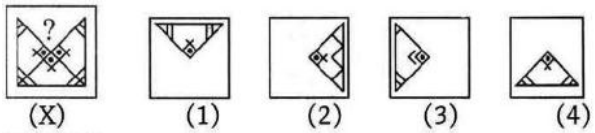
Direction (Qs. 23-24) : In each of the following questions, select a figure from the four alternatives, which when placed in the blank space of fig. (X) would complete the pattern.

23.



(a) 1 (b) 2 (c) 3 (d) 4

24.



(a) 1 (b) 2 (c) 3 (d) 4

25. Sunita ranked 11^{th} from the top and 27^{th} from the bottom in a class. How many students are in the class?

(a) 38 (b) 28 (c) 40 (d) 37

26. Sarita is at 27^{th} position from the top in a class of 43 students. What is her rank from the other side?

(a) 16^{th} (b) 17^{th} (c) 15^{th} (d) 21^{st}

Direction (Qs. 28-29): In each of these questions, four terms are given. While three of them are identical in some way, one is different from the rest. Select the odd one as your answer.

27. (a) Hat (b) Bag (c) Purse (d) Basket

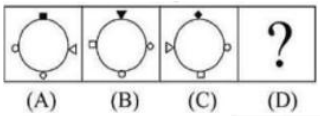
28. (a) Pen (b) Calculator (c) Pencil (d) Ink

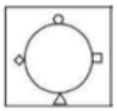
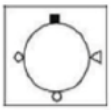
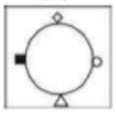
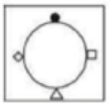
29. Find which one word cannot be made from the letters of the given word.

UNCONSCIOUS

(a) SON (b) COIN (c) SUN (d) NOSE

30. In the following question, a figure series is given out of which the last figure is missing, Find which one would complete the series.



(a)  (b)  (c)  (d) 

PHYSICS

31. Teamwork in science is important because it:

(a) Makes experiments fun (b) Brings together ideas

(c) Saves money (d) Helps hide errors

32. Science helps farmers by explaining:

(a) Seasons (b) Plant growth (c) Market rates (d) Bee behaviour

33. Science is described as:

(a) Practical only (b) Systematic study

(c) Only about experiments (d) Only about nature

34. Convert 2 cm into km.

(a) 0.00002 (b) 0.002 (c) 0.0002 (d) 0.2

35. Motion of strings of a guitar shows

(i) Oscillatory motion (ii) Vibratory motion

(iii) Random motion (iv) Rotational motion

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

36. Read the given statements and select the correct option,

Statement 1: The displacement of a body may be zero, though distance can be finite.

Statement 2: If a body moves such that finally it arrives at initial point, then displacement is zero while distance is finite.

(a) Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.

(b) Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1.

(c) Statement 1 is true and statement 2 is false.

(d) Statement 1 is false and statement 2 is true.

37. While measuring the length of a wooden box, the reading at one end is 1.5 cm and the other end is 4.7 cm. What is the length of the wooden box?

(a) 4.7 cm (b) 1.5 cm (c) 3.2 cm (d) 6.2 cm

38. Reshma is writing a story about ancient maritime trade. In her story, sailors get caught in a heavy storm with an overcast sky at night, rendering the stars completely invisible. Which device should the sailors use to navigate safely?

(a) Bar magnet suspended by a thick rope

(b) Matsya-yantra (Machchh-yantra) in a vessel of oil

(c) Electrostatic needle floating on a lotus leaf

(d) Non-magnetic brass pointer calibrated via sundial

39. A piece of naturally occurring magnetic rock used by ancient sailors for navigation is known as:
(a) Limestone (b) Lodestone (c) Cobaltite (d) Hematite

40. Which of the following elements or their combinations belong to the group of magnetic materials as explicitly discussed in Grade 6 science textbooks?
(a) Iron, Copper, and Gold (b) Nickel, Cobalt, and Iron
(c) Aluminum, Silver, and Brass (d) Zinc, Lead, and Platinum

41. When a bar magnet is rolled over a large heap of steel U-clips, what is the expected pattern of attraction at different positions along the magnet?
(a) Maximum clips stick uniformly all over the body of the magnet.
(b) Maximum clips stick at the centre, with none at the ends.
(c) Maximum clips stick near both ends, while very few stick at the remaining centre part.
(d) Clips stick exclusively to the North pole and are completely repelled by the South pole.

42. Which of the following statements correctly explains why a perfectly healthy human adult might show a normal body temperature slightly different from 37.0°C?
(a) The body temperature of an individual is influenced by factors such as age, time of the day, and activity level.
(b) The value 37.0°C is an average body temperature derived from a large population of healthy individuals, not an absolute constant.
(c) Both (A) and (B) are correct.
(d) Neither (A) nor (B) is correct.

43. A digital thermometer measures temperature with the help of _____, whereas older thermometers rely on the expansion of liquids like mercury or alcohol.
(a) Heat sensors (b) Infrared detectors
(c) Bimetallic strips (d) Pressure transducers

44. Why are digital clinical thermometers preferred over old traditional mercury-in-glass clinical thermometers?
(a) Mercury is highly toxic and very difficult to safely dispose of if the glass tube breaks accidentally.
(b) Digital thermometers provide an electronic numerical display that is much easier to read accurately.
(c) Digital thermometers utilize advanced heat sensors rather than physical expansion lines.
(d) All of the above.

45. Suppose you measure a child's temperature by placing a digital clinical thermometer under their armpit (axilla). If the digital display reads 36.2°C, what is the estimated actual core body temperature of the child?
(a) Around 35.2°C to 35.7°C (b) Exactly 36.2°C
(c) Around 36.7°C to 37.2°C (d) Exactly 40.0°C

CHEMISTRY

46. Which of the following is not an example of matter?
(a) Water (b) Air (c) Thought (d) Diamond

47. Which of the following materials is not soluble in water?
(a) Sugar (b) Chalk powder (c) Salt (d) Vinegar

48. During a laboratory experiment, a student records the mass and volume of four sample materials. According to the International System of Units (SI) and international standards, which of the following expressions is technically typed and formatted flawlessly?
(a) Mass = 7 kgs, Volume = 500 ml. (b) Mass = 7kg, Volume = 500mL.
(c) Mass = 7 kg, Volume = 500 mL. (d) Mass = 7_kg, Volume = 500 ML.

49. In an advanced scientific assessment, a material is defined structurally as 'matter' if and only if it strictly demonstrates two fundamental physical criteria simultaneously. What are these two essential properties?

(a) High lustre and absolute transparency to visible light rays.
(b) Total solubility in liquid water and a very high level of hardness.
(c) The presence of a measurable mass and the occupation of physical space (volume).
(d) Low density and a high elastic bounce coefficient when dropped.

50. What is the primary foundation of scientific inquiry and discovery?

(a) Memorizing textbook definitions
(b) Curiosity and keen observation
(c) Following strict social customs
(d) Repeating historical experiments without changes

51. Which of the following best describes the 'scientific method'?

(a) A step-by-step process of observing, questioning, guessing, testing, and analysing
(b) A random guess without testing
(c) Memorizing scientific names of animals
(d) Building rockets in a laboratory

52. When your pen stops writing, what is the first logical step according to the scientific method?

(a) Throwing the pen away
(b) Buying a new notebook
(c) Asking 'Why did my pen stop writing?' and making a guess (hypothesis)
(d) Changing the ink factory

53. Which planet in our solar system is currently known to support life and possess a protective environment?

(a) Mars (b) Venus (c) Earth (d) Jupiter

54. Which of the following is an example of applying the scientific method in daily life?

(a) Checking why a bicycle tyre is flat by submerging it in water to find air bubbles
(b) Sleeping early to wake up late
(c) Eating dinner while watching television
(d) Choosing clothes based on color preference

55. What is compared to a 'giant and unending jigsaw puzzle' where every new discovery adds a piece?

(a) Mathematics (b) Grammar (c) History (d) Science

56. Match the electrical terms in Column I with their SI units in Column II:

Column I		Column II	
1.	Electric current	A.	Volt
2.	Potential difference	B.	Ampere
3.	Resistance	C	Watt
4.	Electric power	D.	Ohm

(a) 1-B, 2-A, 3-D, 4-C (b) 1-A, 2-B, 3-C, 4-D
(c) 1-D, 2-C, 3-B, 4-A (d) 1-C, 2-D, 3-A, 4-B

57. Match the astronomical terms in Column I with their descriptions in Column II:

Column I		Column II	
1.	Galaxy	A.	Movement of Earth around the Sun
2.	Solar system	B.	A vast system of millions of stars
3.	Revolution	C	Spinning of Earth on its axis
4.	Rotation	D.	Sun and planets revolving around it

(a) 1-D, 2-C, 3-B, 4-A (b) 1-A, 2-B, 3-C, 4-D
(c) 1-C, 2-A, 3-D, 4-B (d) 1-B, 2-D, 3-A, 4-C

58. Match the scientific instruments in Column I with their uses in Column II:

Column I		Column II	
1.	Stop watch	A.	Measuring length
2.	Spring balance	B.	Measuring temperature
3.	Ruler / Meter scale	C	Measuring short time intervals
4.	Thermometer	D.	Measuring weight/force

(a) 1-B, 2-C, 3-D, 4-A (b) 1-A, 2-B, 3-C, 4-D
(c) 1-C, 2-D, 3-A, 4-B (d) 1-D, 2-A, 3-B, 4-C

59. **Assertion (A):** Science is not merely memorizing facts, but a systematic way of thinking, observing, and testing.
Reason (R): The scientific method relies on observation, questioning, hypothesis formulation, and experimental testing.
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
(b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).
(c) Assertion (A) is true but Reason (R) is false.
(d) Assertion (A) is false but Reason (R) is true.

60. **Assertion (A):** Burning of paper is classified as a physical change.
Reason (R): Physical changes are easily reversible and do not produce new chemical substances.
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
(b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).
(c) Assertion (A) is true but Reason (R) is false.
(d) Assertion (A) is false but Reason (R) is true.

BIOLOGY

61. Which of the following is an aquatic animal?
(a) Lion (b) Elephant (c) Dolphin (d) Tiger
62. Which of these is an example of a shrub?
(a) Mango tree (b) Rose plant (c) Grass (d) Coconut tree
63. Which of these animals can live both on land and in water?
(a) Crocodile (b) Elephant (c) Parrot (d) Dog
64. Which animal uses gills to breathe?
(a) Frog (b) Dog (c) Fish (d) Snake
65. Which animal has a long trunk to help it drink water and pick up food?
(a) Giraffe (b) Elephant (c) Kangaroo (d) Lion
66. Which type of habitat do camels live in?
(a) Mountains (b) Oceans (c) Deserts (d) Forests
67. Which feature helps a fish to swim easily in water?
(a) Legs (b) Wings (c) Streamlined body (d) Hard shell
68. What do plants provide to animals?
(a) Shelter (b) Oxygen
(c) Food (d) All of the above
69. Which one of the following food items does not provide dietary fibre?
(a) Whole grains (b) Whole pulses (c) Fruits and vegetables (d) Milk
70. Junk foods are high in _____.
(a) Vitamins (b) Minerals (c) Sugar and fat (d) Roughage

71. Which of the following is a balanced meal?
(a) Only rice (b) Only fruits
(c) A mix of carbohydrates, proteins, and fats (d) Only junk food

72. Which nutrient is known as a body-building nutrient?
(a) Carbohydrates (b) Proteins (c) Fats (d) Minerals

73. Which of the following is a rich source of carbohydrates?
(a) Meat (b) Rice (c) Butter (d) Fish

74. Which region of India is known for dishes like dosa and idli?
(a) Punjab (b) West Bengal (c) Maharashtra (d) Tamil Nadu

75. Which cooking advancement is NOT part of modern methods?
(a) Gas stoves (b) Electric grinders
(c) Silbattas (d) Microwave ovens

MATHEMATICS

76. The difference between the smallest 3-digit number and the greatest 2-digit number is .
(a) 1 (b) 20 (c) 90 (d) 100

77. The population of a town is 86542892. If the number of females is 24596825, then find the number of males.
(a) 61946667 (b) 61956067 (c) 61946067 (d) 61966067

78. A number is divisible by both 5 and 12 . By which other number will that number be always divisible?
(a) 72 (b) 60 (c) 62 (d) 42

79. What least value should be given to * so that the number 653*47 is divisible by 11?
(a) 9 (b) 6 (c) 7 (d) 1

80. The HCF of two consecutive odd numbers is _____
(a) 2 (b) 0 (c) 4 (d) 1

81. The HCF of the denominator and the numerator of a fraction which is in its lowest form is
(a) 1 (b) 0
(c) Always an even number (d) Can't be determined

82. A number which has more than two factors is called a
(a) Composite number (b) Even number
(c) Odd number (d) Prime number

83. Which number should come in place of □ ?

$$\frac{4}{9}+\frac{7}{9}+\frac{\square}{9}=2\frac{1}{9}$$

(a) 7 (b) 1 (c) 8 (d) 9

84. What fraction of an hour is 40 minutes?
(a) $\frac{1}{2}$ (b) $\frac{1}{3}$ (c) $\frac{2}{3}$ (d) $\frac{1}{4}$

85. Simplify : $4\frac{3}{5}-2\frac{7}{9}-1\frac{2}{15}-\frac{2}{5}$
(a) $\frac{14}{45}$ (b) $\frac{13}{45}$ (c) $\frac{16}{45}$ (d) $\frac{12}{45}$

86. Aanya had $\frac{3}{4}L$ of milk. She used $\frac{1}{5}L$ to make a cup of tea. How much milk she has left with?
(a) $\frac{1}{4}$ L (b) $\frac{11}{20}$ L (c) $1\frac{1}{4}$ L (d) $\frac{1}{2}$ L

87. Ritu painted $\frac{2}{5}$ of the walls in her room. Her sister Rashmi helped and painted $\frac{3}{5}$ of the walls. How much did they paint together?
(a) $\frac{5}{10}$ (b) $\frac{6}{25}$ (c) $\frac{1}{5}$ (d) 1

88. The value of $3\frac{1}{12}-\left[1\frac{3}{4}+\left\{2\frac{1}{2}-\left(1\frac{1}{2}-\frac{1}{3}\right)\right\}\right]$ is .

(a) $\frac{1}{2}$ (b) 2 (c) 1 (d) 0

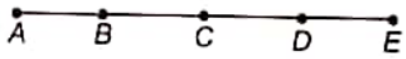
89. Which of the following can be measured?

(a) Line (b) Ray (c) Point (d) Line segment

90. Three or more lines are _____, if they pass through a common point.

(a) Parallel (b) Collinear (c) Concurrent (d) All of these

91. Number of line segments in the given figure is _____.



(a) 5 (b) 10 (c) 15 (d) 20

92. The polygon which is made up of least number of sides is a_____.

(a) Square (b) Triangle (c) Rectangle (d) None of these

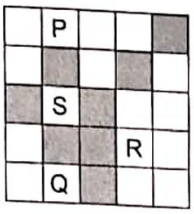
93. What type of angle is angle X?

(a) Acute (b) Obtuse (c) Right (d) Straight

94. A set of points which extends infinitely in both the directions is called _____.

(a) Line (b) Line segment (c) Point (d) None of these

95. Which of the following squares should be shaded to make the given figure symmetric?



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

96. Which of the following shows a symmetric figure?

(a) (b) (c) (d)

97. Which of the following is symmetrical about its diagonals?

(a) Square (b) Rectangle (c) Parallelogram (d) None of these

98. A rhombus is symmetrical about _____.

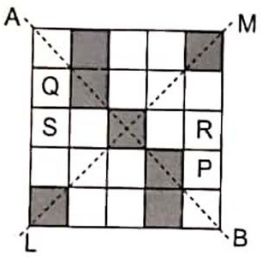
(a) The line joining the midpoints of its opposite sides

(b) Each of its diagonals

(c) Perpendicular bisector of each of its sides

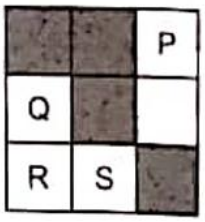
(d) None of these

99. Which of the following square(s) must be shaded so that given figure is symmetric along both LM and AB ?



(a) R and S (b) P only (c) Q and P (d) Q only

100. Which square must be shaded so that the figure has a line of symmetry?



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