

Your Talent, Your Future - Shine with BOH 2025!

#PathToExcellence



BRAIN OF HIMACHAL

आपकी प्रतिभा, हमारा मंच - ब्रेन ऑफ हिमाचल

ASPIRE TALENT HUNT EXAM-2025

For 5th, 6th, 7th, 8th, 9th, 10th, (11th & 12th Science)

SAPMLE TEST PAPER

CLASS 8th

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PHYSICS

1. **What is the SI unit of force?**
(a) Pascal
(b) Newton
(c) Joule
(d) Watt
2. **What happens to the pressure if you push a nail into a wooden surface?**
(a) The pressure increases
(b) The pressure decreases
(c) The pressure remains the same
(d) The pressure becomes zero
3. **Which of the following is an example of using pressure to achieve a task?**
(a) Wearing broad shoes to distribute weight
(b) Using a screwdriver to turn a screw
(c) Using a pointed needle to sew fabric
(d) Using a cushion to sit on
4. **A force of 10 N is applied over an area of 2 m^2 . What is the pressure?**
(a) 5 Pa
(b) 20 Pa
(c) 10 Pa
(d) 2 Pa
5. **If a block is sliding on a horizontal surface, what type of friction acts on it?**
(a) Static friction
(b) Rolling friction
(c) Kinetic friction
(d) Fluid friction
6. **Which of the following factors increases friction?**
(a) Smoother surfaces
(b) Lubrication
(c) Rougher surfaces
(d) Increased speed
7. **Which of the following helps reduce friction?**
(a) Increasing the roughness of surfaces
(b) Adding oil or grease
(c) Using sandpaper
(d) Increasing the weight of objects
8. **Which of the following materials is the best conductor of sound?**
(a) Air
(b) Water
(c) Metal
(d) Wood
9. **What happens to the speed of sound as the temperature of the medium increases?**
(a) It decreases
(b) It remains constant
(c) It increases
(d) It becomes unpredictable

Rough work

Rough work

14. What is the main by product of complete combustion of hydrocarbons?

- a. CO_2
- b. CO
- c. SO_2
- d. CH_4

15. Rayon is different from synthetic fibres because

- a. It has a silk like appearance
- b. It is obtained from wood pulp
- c. Its fibres can also be woven like those of natural fibres
- d. None

16. Which fabric is commonly used for making summer clothing due to its breathability?

- a. Wool
- b. Polyester
- c. Cotton
- d. Velvet

17. Non-metals do not have lustre but exception to this is :

- a. Diamond
- b. Graphite
- c. Bromine
- d. None

18. The calorific value of a fuel is the amount of energy released per gram when the fuel is burned. If the calorific value of a particular fuel is 40 KJ/g and you burn 15 gram of this fuel, how much energy is released?

- a. 500 KJ
- b. 600 KJ
- c. 525 KJ
- d. 625 KJ

19. What are the three components required for a fire to burn?

- a. Heat , Water and Oxygen
- b. Heat ,Fuel and Oxygen
- c. Fuel , salt and Heat
- d. Oxygen ,Water and Fuel

20. Which of these elements is a non-metal?

- a. Iron
- b. Copper
- c. Oxygen
- d. Gold

21. Which process is used to refine crude oil into various products like gasoline and diesel?

- a. Photosynthesis
- b. Fractional distillation
- c. filtration
- d. Combustion

22. Zinc and copper sulphate reacts to form :

- a. Zinc sulphide and copper
- b. copper sulphate and zinc
- c. zinc and copper
- d. zinc sulphate and copper

23. What is the primary use of kerosene ?

- a.** Electricity generation
- b.** Aircraft fuel
- c.** Industrial lubricants
- d.** Fertilizers

24. Which of the following is a fossil fuel ?

- a.** Wind
- b.** Solar
- c.** Coal
- d.** Geothermal

25. Which plastic is used to make water bottles ?

- a.** Polyethylene terephthalate (PET)
- b.** Polyvinyl chloride (PVC)
- c.** Polystyrene (PS)
- d.** Polycarbonate(PC)

26. Which of the following is not true ?

- a.** Burning of coal release SO_2
- b.** Acid rain is harmful to crops
- c.** CNG is a clean fuel
- d.** Incomplete combustion of coal releases O_2

BIOLOGY**8TH BOH**

27. When plants of same kind are cultivated at one place on a large scale is called
a. Angiosperm b. Gymnosperm c. Crop d. Herbs

28. Process of loosing & turning of soil is called
a. Cultivation b. Sowing c. Irrigation d. Tilling

29. The crop growing in winter season (october to march) are called
a. Kharif b. Rabi c. Zaid d. All of above

30. Curd contain several microbes one of them is
a. Coccidi b. Spirillum c. Lactobacillus d. Yeast

31. Who discovered first Antibiotic
a. Robert Hooke b. Robert Brown c. Louis Pasteur d. Alexander Fleming

32. Disease causing microbes are called
a. Predator b. Pest c. Antigen d. Pathogen

33. Which among them is bacterial disease
a. Tuberculosis b. Measles c. Chicken pox d. Polio

34. Which area are meant to conserve biodiversity in natural habitat
a. Zoo b. Herbarium c. Biosphere reserve d. Botanical garden

35. Which among them are examples of endemic flora of panchmarhi biosphere reserve
a. Wild mango & sal b. Sal & Bison c. Bison & Flying squirrel d. All of above

36. Areas where wild animals are protected & people also can do certain activities in those areas are
a. National park b. Zoos c. Sanctuaries d. Botanical Garden

37. Structural & functional unit of life is
a. Tissue b. Organ c. Cell d. Organ system

38. Kitchen of cell is
a. Chloroplast b. Nucleus c. Mitochondria d. Lysosome

39. Proteins in cell are synthesised by
a. Cell membrane b. Nucleus c. Ribosome d. Plastid

40. Which among them are microbes
a. Bacteria b. Fungi c. Protozoa d. All of above

ROUGH-WORK

41. Simplify:

$$\frac{\left(\frac{2}{3} \times \left(-\frac{5}{4}\right)\right) + \left(\left(-\frac{10}{3}\right) \times \frac{5}{2}\right) - \left(\left(-\frac{16}{3}\right) \times \left(-\frac{55}{32}\right)\right)}{\frac{3}{2} \times \left(\left(-\frac{9}{14}\right) \times \left(-\frac{1}{7}\right)\right)}$$

(a) $\frac{1082}{81}$

(b) $-\frac{1082}{81}$

(c) $-133\frac{7}{81}$

(d) $133\frac{7}{81}$

42. One rational number between $\frac{1}{5}$ and $\frac{1}{4}$ is

(a) $\frac{18}{100}$

(b) $\frac{22}{100}$

(c) $\frac{26}{100}$

(d) $\frac{27}{100}$

43. Sum of the digits of two digit numbers is 11. The number obtained by interchanging the digits is 27 more than the original number. The original number is

(a) 74

(b) 47

(d) 56

(d) 65

44. Solve for x :

$$\frac{2}{3}(4x - 1) - \left(4x - \frac{1-3x}{2}\right) = \frac{x-7}{2}$$

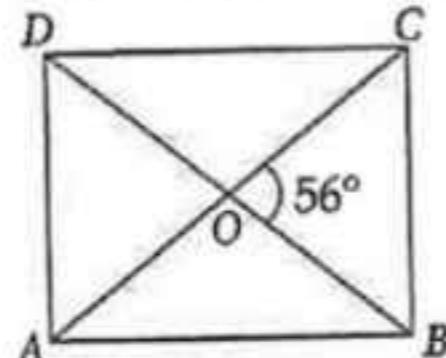
(a) 0

(b) 1

(c) 2

(d) 5

45. The diagonals of rectangle ABCD intersect each other at O. If $\angle BOC = 56^\circ$, then the value of $\angle OAD$ will be



(a) 120°

(b) 62°

(c) 90°

(d) 44°

46. The measures of the five angles of a hexagon are equal and the sixth angle measure 100° , then the measure of each the five angles is

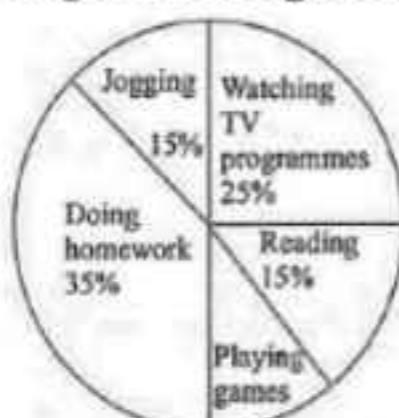
(a) 120°

(b) 124°

(c) 128°

(d) 130°

47. The pie chart below shows percentage of evening time spent by Mini on different activities.

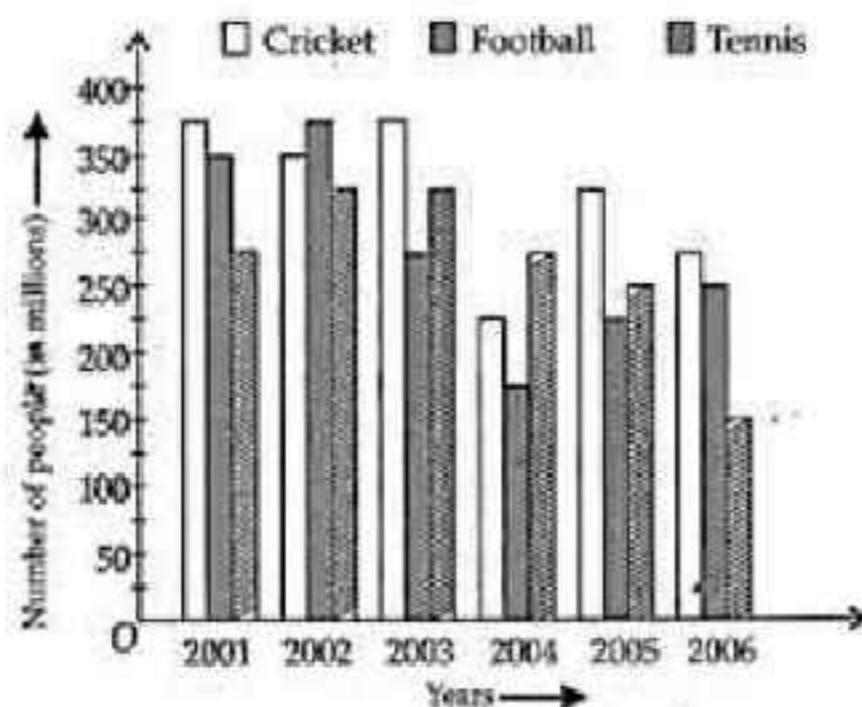


Rough work

If Mini spent 2hrs 30 mins in watching TV programmes, then how much time she spent on jogging?

(a) 1 hr 15 mins (b) 1 hr 30 mins (c) 2 hrs 15 mins (d) 2 hrs 45 mins

48. Study the bar graph given below. Preferences of people in playing different games over the years



What is the ratio of the number of people preferring to play Cricket to the number of people preferring to play Tennis in the year 2003?

(a) 14 : 15 (b) 15 : 13 (c) 15 : 17 (d) 13 : 15

49. If $\sqrt{13 - a\sqrt{10}} = \sqrt{8} + \sqrt{5}$, then the value of a is

(a) -6 (b) -4 (c) -8 (d) -5

50. Find the value of

$$\sqrt{0.09} + \sqrt{0.81} + \sqrt{7.29} + \sqrt{98.01}$$

(a) 13.7 (b) 13.8 (c) 13.6 (d) 13.1

51. $\sqrt[3]{x \times 0.000009} = 0.3$, then the value of \sqrt{x} is

(a) 27 (b) 81 (c) 9 (d) 8

52. Evaluate:

$$3\sqrt[3]{\frac{4096}{64}} + 2\sqrt[3]{\frac{5832}{216}} - 3\sqrt[3]{\frac{3375}{125}} + 4\sqrt[3]{\frac{1728}{64}}$$

(a) 12 (b) 13 (c) -13 (d) -12

53. The difference between the compound interest (compounded annually) and simple interest on a certain sum at 10% per annum for 2 years is RS. 631. Find the sum.

(a) RS 80100 (b) RS. 63100 (c) RS. 6000 (d) RS. 73100

54. The compound interest on RS. 10,000 in 2 years at 4% per annum, the interest being compounded half yearly, is

(a) RS.6360.80 (b) RS.824.32 (c) RS.912.86 (d) RS. 828.82

Rough work

55. If $x^2 + \frac{1}{x^2} = \frac{17}{4}$, ($x > 0$), then find the value of $\frac{2}{5} \left(x + \frac{1}{x} \right) + \left(x - \frac{1}{x} \right)$.
 (a) $\frac{3}{2}$ (b) $\frac{25}{4}$ (c) $\frac{5}{2}$ (d) $\frac{9}{4}$

56. Simplify:

$$\frac{x^2 - (y-z)^2}{(x+z)^2 - y^2} + \frac{y^2 - (x-z)^2}{(x+y)^2 - z^2} + \frac{z^2 - (x-y)^2}{(y+z)^2 - x^2}$$

(a) -1 (b) 0 (c) 1 (d) 2

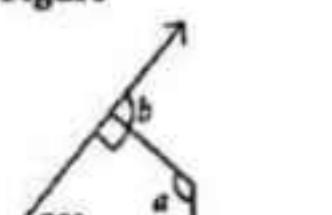
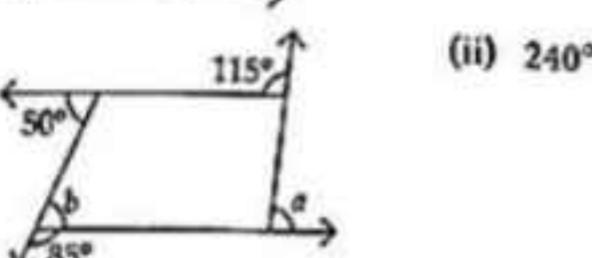
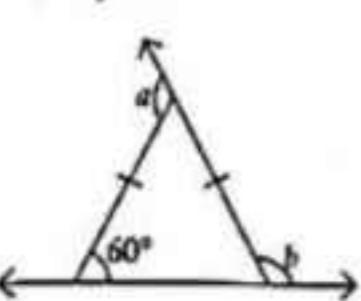
57. A labourer earns RS. 141.75 in 26 minutes. How much money will he earn in 4 hours?

(a) RS. 1308.46 (b) RS. 3000 (c) RS. 2850 (d) RS. 2870

58. If 30 meters of ribbon costs RS. 1455, how many meters of it can be bought for RS. 679?

(a) 15 (b) 14 (c) 17 (d) 19

59. Match the following and select the correct option.

List-I
 Figure
 (P) 
 (Q) 
 (R) 
 (S) 

List-II
 $a + b$
 (i) 205°

(ii) 240°

(iii) 220°

(iv) 216°

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

60. In which quadrilateral has four sides of equal length?

(a) Rhombus (b) Rectangle (c) Parallelogram (d) Kite

Rough work

MENTAL ABILITY

61. If the 1st half of the alphabets is written in the reverse order, which letter will be exactly middle between the 9th letter from the left and the 10th letter from the right end?
 (a) B (b) A (c) D (d) None of these

62. The positions of the first and the fifth digits of the number 81943275 are interchanged. Similarly, the positions of the second and sixth digits are interchanged and so on till the fourth and the eighth digits. Which of the following will be the multiplication of fifth digit from the left end and third digit from the right end after the rearrangement?
 (a) 8 (b) 35 (c) 7 (d) 28

63. In the following question, some words are given which are related in some way. The same relationship exists among the words in one of the four alternatives given under it. Find the correct alternatives.
Bone : Skeleton : Nerve
 (a) House: Door: Window (b) Spoke : Wheel : Handle
 (c) Retina : Eye : Pupil (d) Snow: Cloud : Ice

64. In the following question, there is some relationship between the two terms to the left of (:) and the same relationship holds between the two terms to its right. Also, in question, one term to the right of (:) is missing. This term is given as one of the alternatives given below each question. Find out this term.
BOTTLE : CQWXQK:: FILLED :?
 (a) GKOPJJ (b) GKOPJK (c) GKPOJJ (d) GHOPJJ

65. In the following question, a related pair of words is linked by a colon, followed by four pair of words. Choose the pair, which is most like the relationship expressed in the original pair in **bold letters**.
Error: Infallible
 (a) Emotion: Invulnerable (b) Defect : Intolerable
 (c) Flaw : Impeccable (d) Cure : Irreversible

66. Select the related word from the given alternatives.
Twitter : X :: Google : Y
X and Y = ?
 (a) Palo Alto and Welwyn Garden city. (b) Welwyn Garden city and London
 (c) San Bruno and Milton Keynes (d) San Francisco and Mountain view

67. In the following question, some groups of letters are given, all of which except one, share a common similarity while one is different. Select the odd one.
 (a) JKOP (b) MNRS (c) CABD (d) OPTU

68. In the following question, four pairs of words are given, out of which three pairs share the same relationship with others in one way and the fourth one is different from these three. Select the odd one.
 (a) Book: Page (b) Table : Drawer (c) Loom : Cloth (d) Car: Wheel

Rough work

69. In a certain language, 'EXECUTIVE' is coded as 'TCIEUXVEE', then how is 'MAUSOLEUM' coded in that same language?
 (a) LSEUOAUMM (b) AUUCOSLMM (c) AUEUOSEMM (d) SLUEOAUMM

70. If in a certain code language 'BEAUTIFUL' is coded as 573041208 and 'BUTTER' is coded as '504479', then, how will 'FUTURE' be coded in that language?
 (a) 204097 (b) 201497 (c) 704092 (d) 204079

71. In a certain code language, 'SAFER' is written as '5@3#2' and 'RIDE' is written as '2@%#', how would 'FEDS' be written in that code?
 (a) 3#@5 (b) 3@%5 (c) 3#%5 (d) 3#%2

Direction for question(72):- Study the following information carefully to answer the given questions.

In a certain code language

'work for earning money' is coded as 'Go3 None 5Xor4 Farnin7'

'like six years passed' is coded as 'Ti3 Qasse6 Zear5 Mik4'

'hence good amount received' is coded as 'Seceive8 lenc5 Hoo4 Bmoun6'.

72. What is the code for 'last earning was money'?

(a) Xa3 Mas4 None5 Farnin7 (b) None5 Xa3 Mas4 Darnin7
 (c) None5 Mas4 Farnin7 Xa3 (d) Mas4 one5 Farnin7 Xa3

73. In the question below, a group of numerals is given followed by four groups of symbol / letter combinations labelled (a), (b), (c) and (d). Numerals are to be coded as per the codes and conditions given below. You have to find out which of the combinations (a), (b), (c) and (d) is correct and indicate your answer accordingly.

Numerals	3	5	7	4	2	6	8	1	0	9
Letter / Symbol code	★	B	E	A	@	F	K	%	R	M

(i) If the first digit, as well as the last digit is odd, both are to be coded as 'X'.

(ii) If the first digit as well as the last digit is even, both are to be coded as '\$'.

(iii) If the last digit is 0, it is to be coded as '#.'

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★ (a) XAFK★M (b) BAFK★M (c) XAFK★X (d) BAFK★X

74. The next term in the sequence

1, 3, 9, 15, 25, 35, 49 will be

(a) 80 (b) 64 (c) 81 (d) 63

Rough work

75. A series is given, with one word missing. Choose the correct alternatives from the given ones that will complete the series.
Money, Amity, Camera, Animal, Telomere, ?
 (a) Talisman (b) Litmus (c) Matter (d) Shame

76. What should come in the place of question mark(?) in the following alpha-numeric series?
GAS27, IEU35, MIY47, OMA29, SOE39, USI49, ?
 (a) WUM57 (b) WW061 (c) YUM59 (d) YWN62

77. In the following letter series, some of the letters are missing which are given in that order as one of the alternatives below it. Select the correct alternative.
f_hg_fh_gf_hg_fh_g
 (a) gfgfhf (b) fghfgh (c) ghfghf (d) hfghfg

78. In the following number series, some of the numbers are missing which are given in that order as one of the alternatives below it. Select the correct alternative.
9_990_9_00_
 (a) 9900 (b) 00099 (c) 90009 (d) 00990

79. In the following question which of the following words will come fifth if arranged according to the English dictionary.
1. Onion 2. Owl 3. Omnious 4. Ostrich 5. Oxford
 (a) Ostrich (b) Owl (c) Oxford (d) Onion

80. A boy was misdirected from his way while returning to his home from his school. In order to reach his home, he first moved 3 km in South direction and then turned to his left and moved 2 km in straight direction on the road leading to the East. From there he moved to his left and walked 3 km. After this, he again turned to his left and moved 1 km. Finally he reached his home. The home of the boy was in which direction from his school?
 (a) South (b) West (c) North (d) East

DIRECTIONS : (Q. Nos. 81-83) Study the following information carefully and answer the questions given below

A%B(7) A is 12 m in North of B.

A\$B(12) A is 17 m in South of B.

A#B(32) A is 37 m in East of B.

A&B(14) A is 19 m in West of B.

Statement M%K(33), J#K(9), G%J(19), H&G(23), N\$H (25)

81. K is in which direction with respect to G?
 (a) North (b) West (c) North-West (d) South-West

82. If Z is the mid-point of the line formed between H and G, then what is the distance between H and Z?
 (a) 12 m (b) 14 m (c) 16 m (d) 17 m

Rough work

83. If X is in West of J and lies on the line formed by H and N, then what is the distance between X and N?
 (a) 10 m (b) 24 m (c) 6 m (d) 16 m

DIRECTIONS : (Q. Nos. 84-85) Study the following information carefully and answer the questions given below.

Seven members are living in the family.

Q is the daughter of P. B is the brother of R. G is the mother-in-law of A. B is married with A. B is the uncle of Q. D is the father of B. P is sister-in-law of B.

84. What is the relation of Q with respect to G?
 (a) Brother (b) Sister-in-law (c) Mother-in-law (d) Granddaughter

85. If C is the brother of B, then what is the relation of C with respect to Q?
 (a) Aunt (b) Uncle (c) Father. (d) Mother

86. Ram is standing in a line of students and his position is 10th from left and Shyam's position is 5th from right. Ram and Shyam interchanged their positions, then Ram is on 15th position from left. Find out the position of Shyam from right?
 (a) 10th (b) 11th (c) 12th (d) 13th

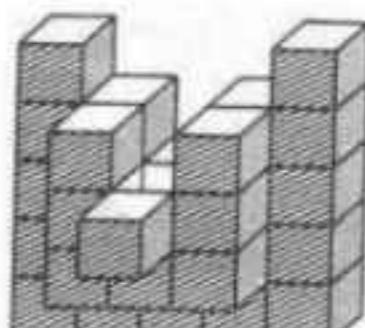
Directions for (q.no - 87): Consider the following information and answer the questions based on it.

Y, R, M, J and B pursue five professions, namely: Designer, Teacher, Engineer, Technician and Accountant and have five gadgets namely: Mobile, Laptop, Calculator, Tablet and Computer, in random order. A person can pursue only one profession and have only one gadget.

- (i) M has a calculator and is neither a teacher nor a technician.
- (ii) The designer has a tablet.
- (iii) The person who has a mobile is neither an accountant nor a teacher.
- (iv) Y is an engineer who has neither computer nor mobile.
- (v) J is a technician and B is not a teacher.

87. Which gadget does the accountant have?
 A. Tablet B. Calculator C. Mobile D. Laptop
 (a) D (b) B (c) C (d) A

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

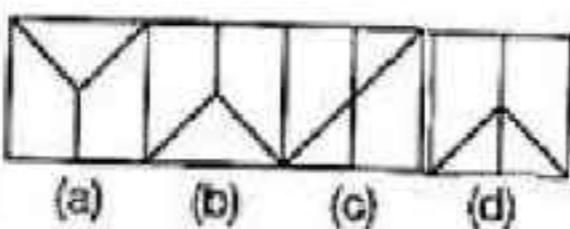
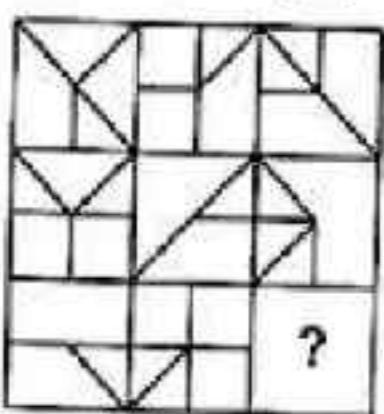


(a) 25 (b) 30 (c) 35 (d) 40

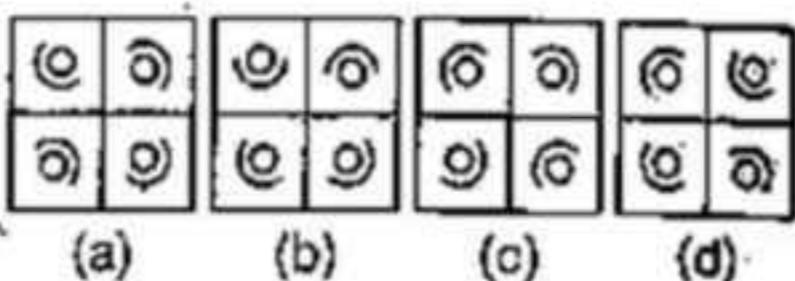
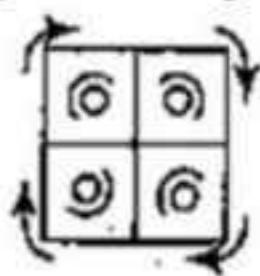
Rough work

89. If a cuboid, having dimension $3 \times 2 \times 1$ cm, is cut into smaller cubes having dimension 1 cm, then the total number of smaller cubes obtained are
 (a) 5 (b) 6 (c) 30 (d) 50

90. In the following question, find out the answer figure which completes the question figure matrix

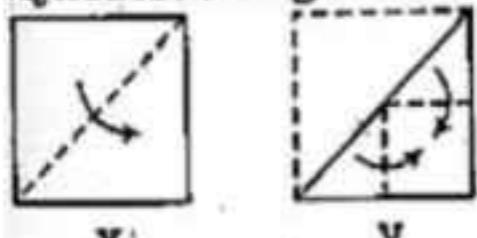


91. In the following question, choose that answer figure which is similar to the question figure, when the question figure is rotated through four places (360°) clockwise.

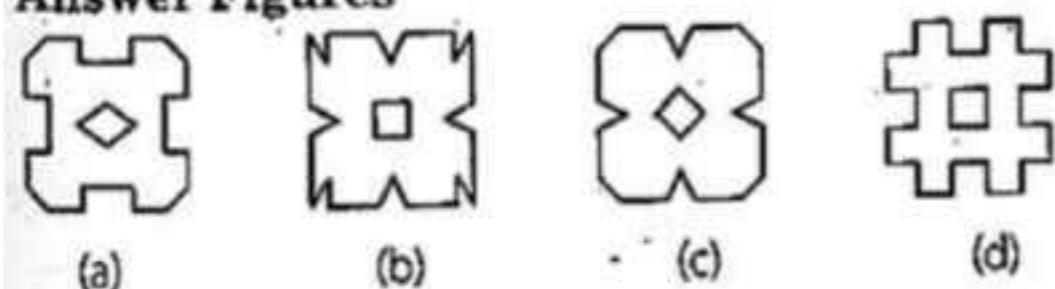


92. In the following question, a transparent sheet is folded in the manner shown in the question figure. Select the figure out of the answer choice showing the unfolded pattern after the cut

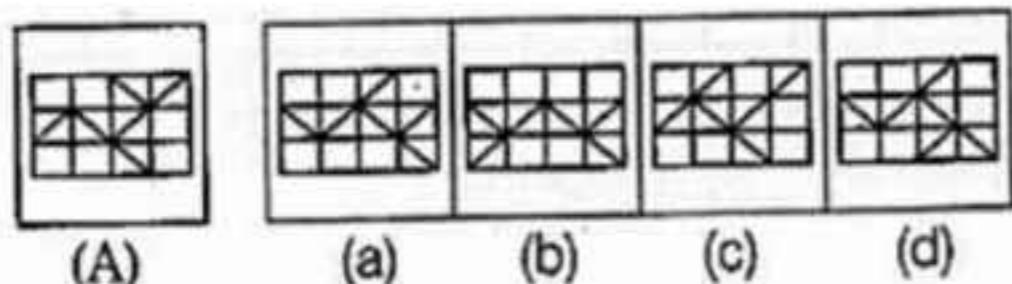
Question Figures



Answer Figures

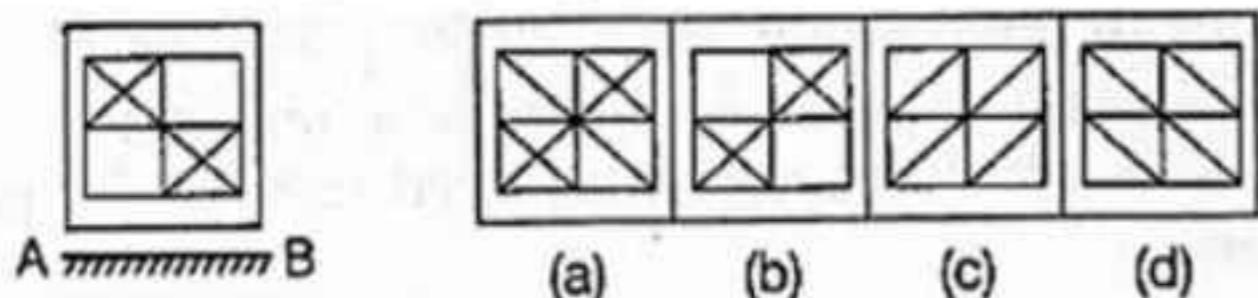


93. Find the water image of the object given in the question figure denoted by (A) out of the figures given in the answer figures (a), (b), (c) and (d).

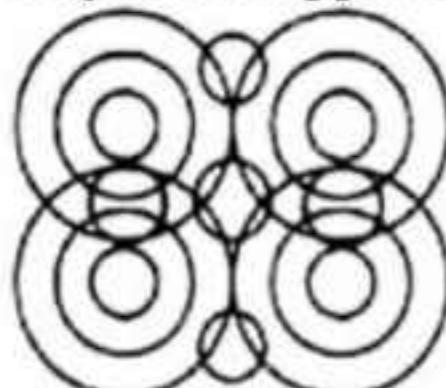


Rough work

94. In the following question, choose the correct mirror image from the answer figure (a), (b), (c) and (d), when mirror is placed along the line AB.

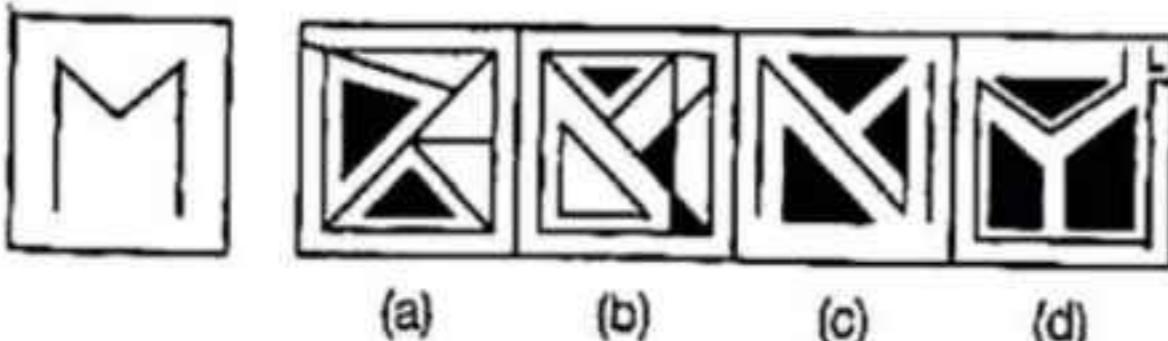


95. How many circles appear in the figure given below?



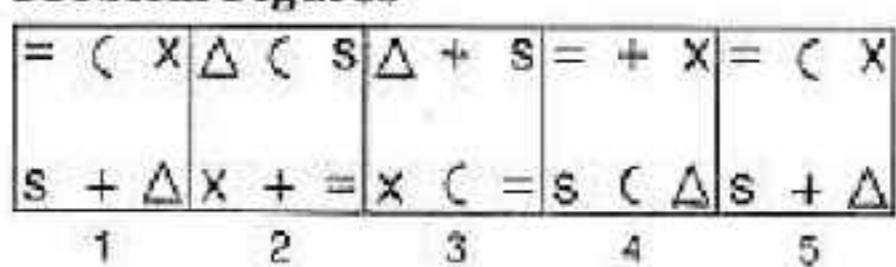
(a) 14 (b) 16 (c) 17 (d) 18

96. In the following question, find the answer figure in which question figure is embedded.

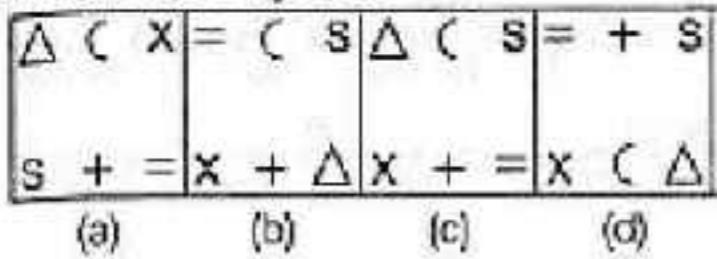


97. In the following question, five figures marked 1, 2, 3, 4 and 5 named as the problem figure and is followed by four answer figures marked (a), (b), (c) and (d). Select a figure for the answer figure which will continue the series established by five problem figures.

Problem Figures



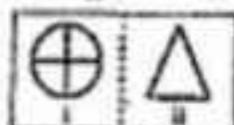
Answers Figures



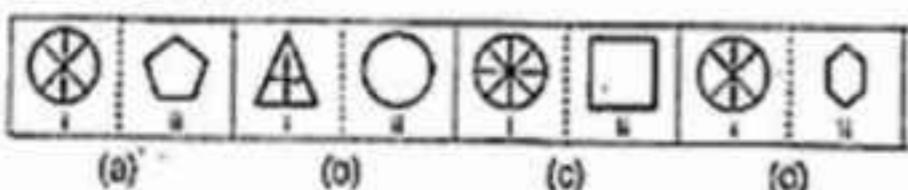
98. In the following question, a related pair of figure is followed by four numbered pairs of figures. Select the pair that has a relationship similar to that in the original pair. The best possible answer is to be selected from a group of fairly close choices.

Rough work

Original Pair



Answer Pairs



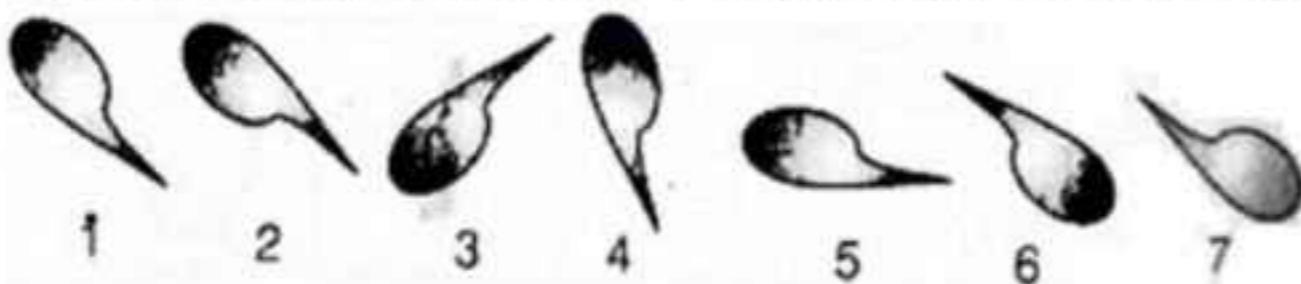
(a)

(b)

(c)

(d)

99. Find the odd pair of figure from the given figures by selecting the correct option.



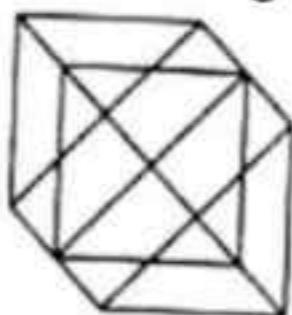
(a) 1, 2, 3

(b) 2, 3, 7

(c) 3, 7, 4

(d) 4, 1, 6

100. Find the number of triangles in the figure given below.



(a) 18

(b) 20

(c) 24

(d) 27

Rough work

ANSWER KEY



BRAIN OF HIMACHAL

आपकी प्रतिभा, हमारा मंच - ब्रेन ऑफ हिमाचल

RESULTS & PRIZE DISTRIBUTION DETAILS

Answer
Key
Available

30th Sep.
2025

Answer
Key
Challenge

1st to 3rd Oct.
2025

**Result
Declaration**
TOP 10 (Class Wise)

8th Oct.
2025

Prize
Distribution
Function

12th Oct.
2025

**Result
Declaration of
all Participants**

15th Oct.
2025

For Answer Key Challenges, please write to "challenge.boh2025@gmail.com" with the following details:-

(1). Your Name (2) Roll Number (3) School Name (4) Mobile Number (5) Specific Question(s) being challenged

Your challenge will be reviewed accordingly.

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