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BRAIN OF HIMACHAL

आपकी प्रतिभा, हमारा मंच - ब्रेन ऑफ़ हिमाचल

ASPIRE TALENT HUNT EXAM-2025

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

SAPMLE TEST PAPER

CLASS 7th

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PHYSICS

1. **What kind of motion is exhibited by a pendulum?**
(a) Circular motion (b) Oscillatory motion
(c) Linear motion (d) Random motion
2. **What kind of surface reflects light the best?**
(a) Rough surface (b) Dull surface
(c) Smooth and shiny surface (d) Transparent surface
3. **What happens to the speed of light when it passes from air into water?**
(a) It increases (b) It decreases
(c) It remains the same (d) It stops
4. **What is the angle between the incident ray and the reflected ray called?**
(a) Angle of incidence (b) Angle of reflection
(c) Angle of refraction (d) Angle of deviation
5. **What type of circuit has only one path for the current to flow?**
(a) Parallel circuit (b) Series circuit
(c) Open circuit (d) Closed circuit
6. **What happens if you add more bulbs to a series circuit?**
(a) The bulbs get brighter
(b) The total resistance decreases
(c) The total resistance increases and the bulbs get dimmer
(d) The bulbs go out
7. **If you break a magnet in half, what happens to the poles of the new pieces?**
(a) Each piece has only one pole (b) Each piece has both north and south poles
(c) The pieces become non-magnetic (d) The poles disappear
8. **Which device uses electromagnets to work?**
(a) Compass (b) Permanent magnet
(c) Electric bell (d) Bar magnet
9. **What is the process of heat transfer through direct contact called?**
(a) Conduction (b) Convection
(c) Radiation (d) Reflection

Rough work

10. **What is the main source of natural heat for the Earth?**
(a) The Moon (b) The Sun
(c) Volcanic activity (d) The ocean
11. **What is the main cause of cyclones?**
(a) Low pressure systems (b) High pressure systems
(c) Earthquakes (d) Volcanic eruptions
12. **In which direction do cyclones typically rotate in the Northern Hemisphere?**
(a) Clockwise (b) Counterclockwise
(c) Randomly (d) In no specific direction
13. **What is the calm center of a cyclone called?**
(a) Eye (b) Core
(c) Hub (d) Peak

Rough work

14. A solid substance can be melted

- a. Only by applying heat
- b. by applying force
- c. none
- d. Both (a) and (b)

15. Which of the following statement are correct about a physical change ?

- I. Atoms of the reacting material rearrange.
 - II. The change can be reversed easily
 - III. A substance undergoes a change in its physical state
- a. Both I and II
 - b. Both I and III
 - c. Both II and III
 - d. all I, II and III

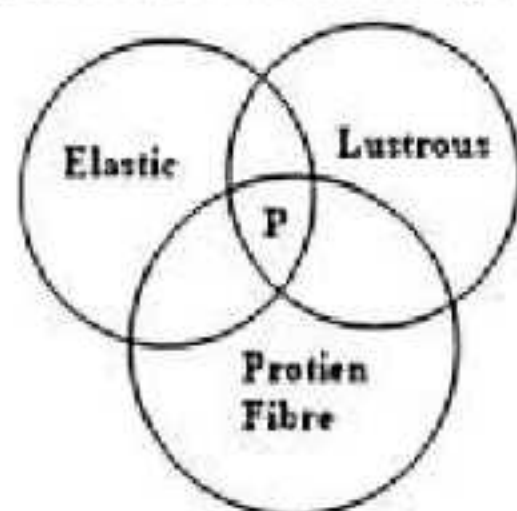
16. What would happen to helium particles in a balloon when the balloon is compressed?

- a. Helium particles shrink in size
- b. Helium particles arrange in a regular pattern
- c. Helium particles have less space between each other
- d. Helium particles vibrate only at their fixed position

17. Which of the following represent the correct sequence of the life cycle of a silk moth ?

- a. Larvae → Eggs → Pupa → Silkworm
- b. Pupa → Larvae → Eggs → Silkworm
- c. Eggs → Larvae → Pupa → Silkworm
- d. Eggs → Pupa → Larvae → Silkworm

18. Observe the following venn diagram , Indentify the option that best represent 'P'



- a. Cotton
- b. Wool
- c. Spandex
- d. Silk

19. Acetic acid can be classified as

- a. Strong acid
- b. Weak acid
- c. Strong Base
- d. Neutral

20. If few drops of phenolphthalein indicator is added to lemon juice, then it will show

- a. Pink color
- b. Yellow color
- c. Colourless
- d. Orange Color

21. Coca-cola is _____ in nature ?

- a.** Acidic
- b.** Basic
- c.** Amphoteric
- d.** Neutral

22. Which acid is present in the sting of an ant ?

- a.** Propanic acid
- b.** Tartoric acid
- c.** Formic acid
- d.** Acetic acid

23. World water day is celebrated on

- a.** 22nd January
- b.** 21st March
- c.** 23rd February
- d.** 22nd March

24. The process of seeping of water into the ground is called

- a.** Aquifer
- b.** Infiltration
- c.** water cycle
- d.** All of these

25. Properties like size shape color and state of a substance are

- a.** Chemical properties
- b.** Physical properties
- c.** Both (a) and (b)
- d.** None

26. Which element of weather is measured in degree Celsius ?

- a.** Pressure
- b.** Wind
- c.** Gravity
- d.** Temperature

BIOLOGY**7TH BOH**

27. Garbage is taken in trucks to low lying open area named
a. Sand fill b. Desert c. Land fill d. None of these
28. Which among them are plants
a. Herbs b. Shrubs c. Trees d. All of above
29. Plant which can not stand upright are
a. Hearb b. Shrub c. Creepers d. Climber
30. Part of leaf by which it is attached to stem is
a. Thalamus b. Petiole c. Vein d. Mid rib
31. Places of movement in body
a. Bone marrow b. Cartilage c. Bone d. Joints
32. In sea plants and animals are surrounded by
a. Hot H₂O b. Cold H₂O c. Saline H₂O d. All of these
33. Sun light & heat are which component of habitat
a. Biotic b. Abiotic c. Both a & b d. None
34. Which among these are terrestrial habitat
a. Deserts b. Grassland c. Both a& b d. Ocean
35. Plants are
a. Autotroph b. Heterotroph c. Endoparasite d. Saprotroph
36. Bed bugs, cuscutta , lice are
a. Saprotroph b. Parasite c. Scavanger d. Autotroph
37. Organism which lives together & share shelter & nutrients are
a. Symbiosis b. Parasitism c. Commensilism d. Ammensilism
38. Which is not part of alimentary canal
a. Buccal cavity b. Liver c. Small intestine d. Stomach
39. Bile is secreted by
a. Liver b. Gall bladder c. Rectum d. Intestine
40. Animal which chew the cuds are
a. Rumen b. Reticulum c. Ruminats d. Paramoecium

ROUGH-WORK

MATHEMATICS

41. If $\frac{5^8 \times 6^7}{(25)^3 \times 6^4} = (3125)^b \times a^3$ then find the value of $a + b$.

(a) $\frac{25}{3}$ (b) $\frac{3}{5}$ (c) $6\frac{2}{5}$ (d) $\frac{5}{3}$

42. Match the following:-

Column-I

(P) If $2700 \times x^6 = 27 \times 10^8$, then $x =$

Column-II

(1) 6

(Q) If $pqr = 0$, then $\frac{\left(\left(x^p\right)^q\right)^{2q}}{x^{pqr}} =$

(2) $\frac{1}{225}$

(R) $\frac{2 \times 2^{n+3}}{2^{n+4} - 2^3 \times 2^n} + 2^2$ is equal to

(3) 10

(S) $\frac{(3^2)^5 \times (5^3)^4 \times (7^4)^5}{(7^2)^{10} \times (3^4)^3 \times (5^7)^2}$

(4) 1

equals

(a) P-1, Q-4, R-3, S-2

(b) P-3, Q-1, R-4, S-2

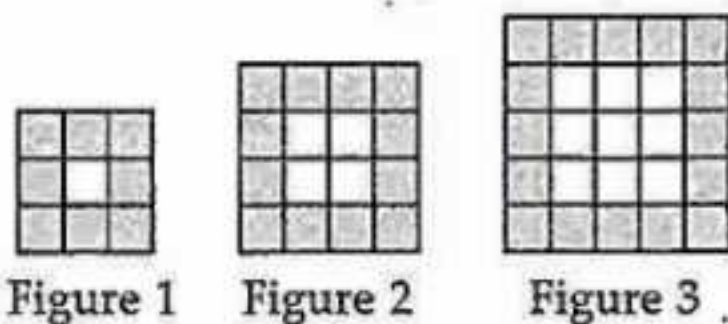
(c) P-2, Q-3, R-1, S-4

(d) P-3, Q-4, R-1, S-2

43. Find the cost of 3 notebooks and 1 magazine in terms of y , if the cost of 1 notebook is RS. $2y$ and that of 1 magazine is RS. $(y+3)$.

(a) RS. $(3y+3)$ (b) RS. $(6y+3)$ (c) RS. $(7y+3)$ (d) RS. $(8y+3)$

44. Figure 1 shows a 3×3 square. Figure 2 shows a 4×4 square. Figure 3 shows a 5×5 square.



How many unshaded squares will Figure 9 have?

(a) 100 (b) 49 (c) 64 (d) 81

Rough work

45. State 'T' for true and 'F' for false and select the correct option.

(i) Every natural number is a rational number.

(ii) Every rational number is a fraction.

(iii) Zero is not a rational number.

(iv) The reciprocal of 0 is $\frac{1}{0}$.

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

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

46. Study the statements carefully.

(i) Every integer is a rational number and ever fraction is a rational number.

(ii) A rational number $\frac{p}{q}$ is positive, if p and q are either both positive or both negative.

(iii) A rational number $\frac{p}{q}$ is negative, if one of p and q is positive and other is negative.

(iv) If there are two rational numbers with common denominator, then the one with the larger numerator is larger than the other.

Which of the following option hold?

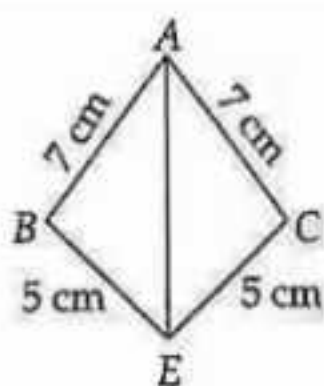
(a) Both (i) and (iv) are incorrect

(b) Both (ii) and (iii) are incorrect

(c) Only (i) incorrect

(d) All are correct

47. By which congruency criterion, the two triangles in the give figure are congruent?



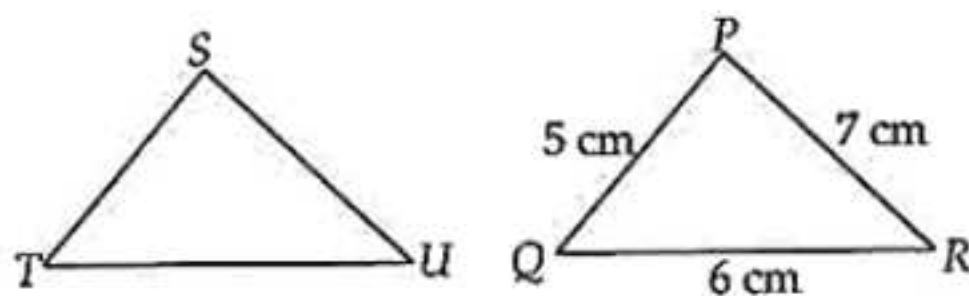
(a) RHS

(b) SSS

(c) SAS

(d) ASA

48. If $\triangle PQR$ is congruent to $\triangle STU$ in the given figure, then what is the length of TU?



(a) 5cm

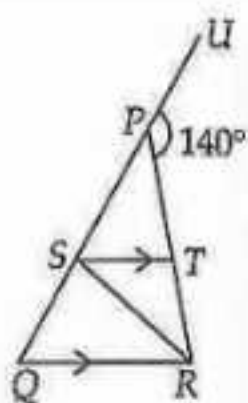
(b) 6cm

(c) 7cm

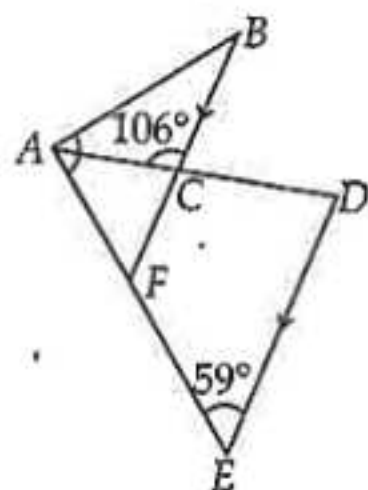
(d) can't be determined

Rough work

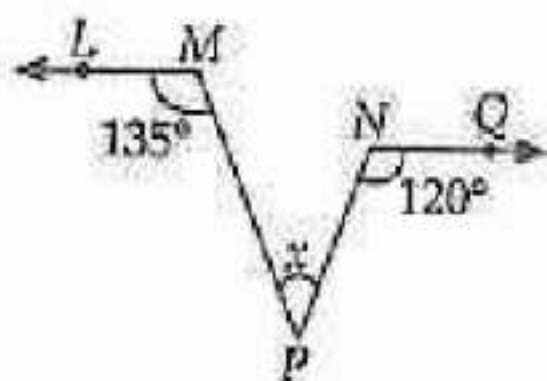
49. In the given figure, $PQ=PR$, $RS=RQ$ and $ST \parallel QR$. If the exterior angle RPQ is 140° , then the measure of angle TSR is



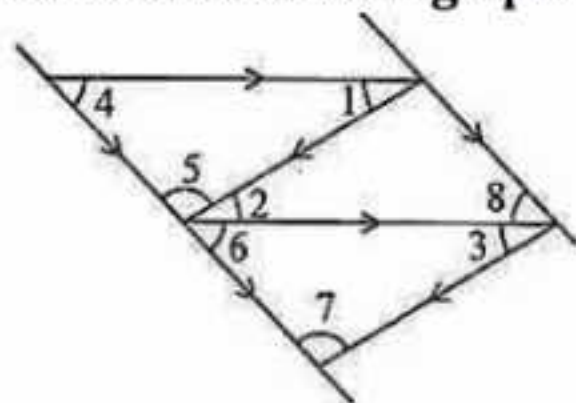
- (a) 55° (b) 40° (c) 50° (d) 45°
50. In the given figure, ACD is a straight line. $AC=CB$ and $BF \parallel DE$. Find $\angle BAE$.



- (a) 42° (b) 84° (c) 39° (d) None of these
51. Given that $LM \parallel NQ$, $\angle LMP = 135^\circ$ and $\angle QNP = 120^\circ$. Find the value of x .



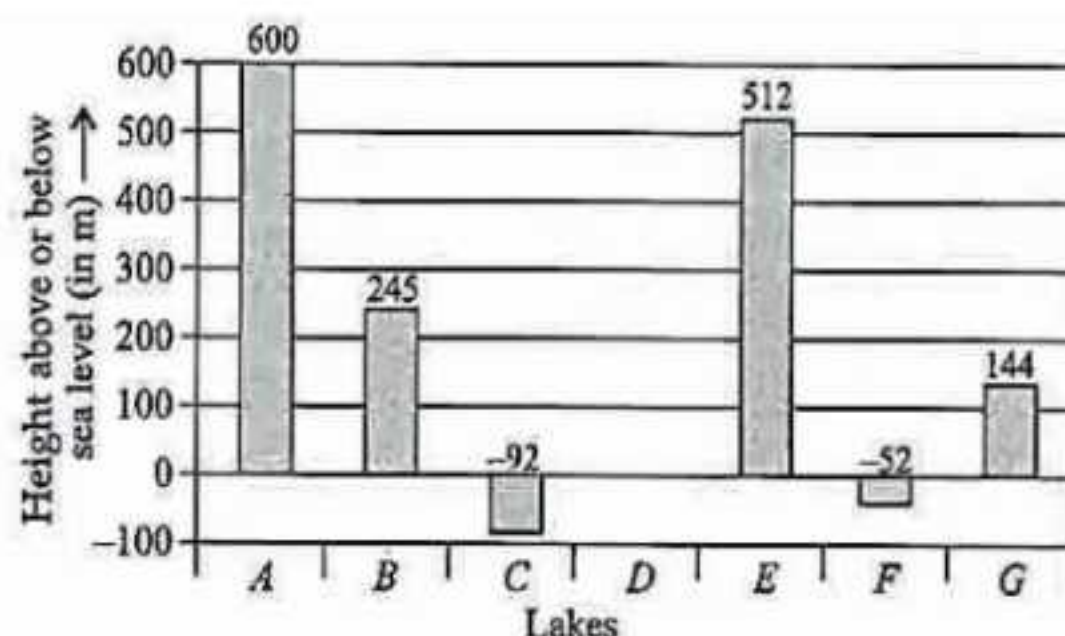
- (a) 60° (b) 75° (c) 135° (d) 120°
52. Which of the following options is incorrect?



- (a) $\angle 1 = \angle 3$ (b) $\angle 1 + \angle 4 + \angle 5 = 180^\circ$ (c) $\angle 8 = \angle 6$ (d) $\angle 1 + \angle 3 = 180^\circ$

Rough work

53. If $\frac{3}{7}$ of 64% of $\frac{x}{21}$ is 1280, then the value of x is
 (a) 98000 (b) 64000 (c) 80000 (d) 49000
54. Two numbers are in ratio 3:4. If 5 is subtracted from each, then the ratio will be 2:3, what is the smaller number?
 (a) 15 (b) 18 (c) 20 (d) 24
55. The given bar graph shows heights of selected lakes. Find the difference in elevation for Lake E and Lake C.



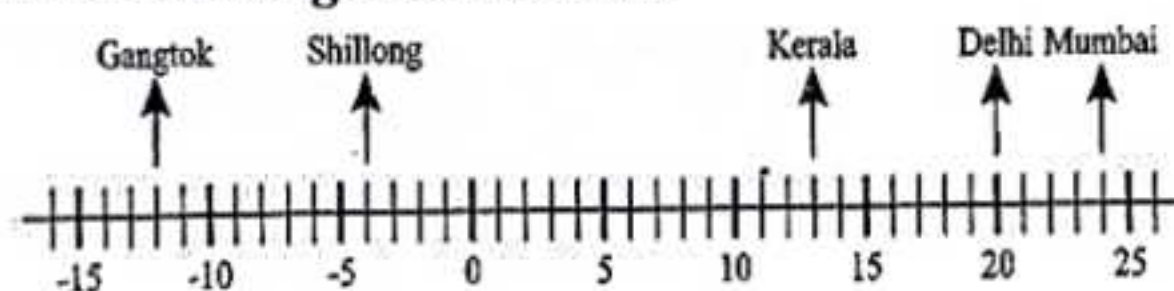
- (a) 420m (b) 604 (c) 504 (d) 692
56. The runs scored in a cricket match by 11 players are as follows:
 9, 15, 121, 51, 101, 81, 50, 16, 82, 11, 11
 Find the mean, mode and median respectively of this data.
 (a) 48, 11, 51, (b) 49.81, 11, 81 (c) 49.90, 11, 50 (d) 49.81, 11, 50
57. How many minutes are there in $1\frac{3}{4}$ hours?
 (a) 75 (b) 105 (c) 115 (d) 95
58. Evaluate:

$$\frac{\left(1 \div \frac{2}{9}\right) - \left[2\frac{1}{2} - \left(1\frac{1}{2} - \left(\frac{-1}{3}\right)\right)\right]}{\left(1 \div 3\frac{1}{5}\right) + \left(1 \div 2\frac{2}{3}\right)}$$

 (a) $5\frac{19}{33}$ (b) $5\frac{13}{19}$ (c) $3\frac{8}{33}$ (d) $13\frac{5}{6}$
59. Find the value of $4 * 5$, if $a * b = a + b - ab$
 (a) 20 (b) -20 (c) 30 (d) -11

Rough work

60. The temperature (in°C) difference between Gangtok and Shillong is ____ the temperature difference between Shillong and Mumbai.



- (a) Greater than (b) Less than (c) Equal to (d) Can't be determined

MENTAL ABILITY

61. If English alphabet is written in backward order, then what will be the 13th letter to the left of the 3rd letter from right?

- (a) P (b) N (c) R (d) Q

62. From the given alternative words, select the word which cannot be formed using the letters of the given word

ENVIRONMENT

- (a) ENTRANCE (b) MOVE (c) EMINENT (d) ENTER

63. Which single letter can be prefixed to the following words to form entirely new words?

TILL, TABLE, PILE, TAB, PRING

- (a) H (b) S (c) B (d) C

64. If the first and the third digits of each number are interchanged, which number will be the third highest?

- (a) 473 (b) 728 (c) 847 (d) 629

65. Select the related word from the given alternative.

Tadpole : ? :: Caterpillar : Butterfly

- (a) Crow (b) Goose (c) Fish (d) Frog

66. Which of the following is the same as 'Dollar', 'Yen', 'Rupee'?

- (a) Knessep (b) Shora (c) Pound (d) Ground

67. Select the related letters from the given alternatives.

UVW : RST :: MNO : ?

- (a) OPR (b) LJK (c) JKL (d) KLM

68. In the following question, choose the missing term in place of question mark (?) on the basis of the relationship between the words given on the left side of the sign of analogy.

IC : 6 :: DP : ?

- (a) 14 (b) 10 (c) 12 (d) 16

Rough work

69. From the four given alternatives, select that word, which best completes the analogy (?) that exists among the three words
Head : Hair :: Hand : ?
 (a) Finger (b) Ear (c) Neck (d) Knee
70. In the following question, there is a certain relationship between two given group of letters on one side of (::) and one group of letters is given on another side of (::) while another group of letters is to be found from given options, having the same relationship with this group of letters as the group of letters of the given pair bear. Choose the best option.
PURSE : UPRES :: RAZOR : ?
 (a) AROZR (b) AZROR (c) ARZRO (d) ARRZO
71. What comes in place of question mark (?) in the series given below?
9, 12, 16, 21, ?, 34.
 (a) 30 (b) 27 (c) 28 (d) 35
72. Arrange the following words in a meaningful order.
1. Injury 2. Recovery 3. Accident 4. Showroom 5. Drive 6. Car
 (a) 6, 4, 3, 5, 1, 2 (b) 5, 6, 3, 2, 1, 4 (c) 4, 6, 5, 3, 1, 2 (d) 4, 6, 5, 3, 2, 1
73. Sunil and Manohar are playing carrom. If sunil faces towards North-East, then his opponent Manohar faces in which direction?
 (a) South-West (b) North-East (c) North-West (d) South-East
74. Introducing Kavi, Veena said, "She is sister of my husband's wife's son." How is Veena related to Kavi?
 (a) Aunt (b) Daughter (c) Sister (d) Mother
75. D is taller than C and E. A is not as tall as E. C is taller than A. D is not as tall as B. Then, who is the 2nd tallest person?
 (a) B (b) C (c) D (d) E
76. 6 persons are sitting in a row. They are A, B, C, D, E and F. D is sitting on the extreme right end. B is between F and D. E is between A and C. A is not sitting beside F and D. Who is immediate right of A?
 (a) B (b) C (c) D (d) E
77. There are six books A, B, C, D, E and F. B, C and E have blue covers while the rest have red covers. D and F are new books while the rest are old books. A, C and D are law reports while the rest are of physics. Which is the red covered new law report book?
 (a) A (b) B (c) C (d) D
78. If January 1 is a Friday, then what is the first day of the month of March in a leap year?
 (a) Tuesday (b) Wednesday (c) Thursday (d) Friday

Rough work

79. If '÷' denotes "multiplied by", "+" denotes 'subtracted from', "-" denotes "added to" and "×" denotes "divided by", then which of the following equation is true?
- (a) $16 + 19 \times 21 - 5 = 201$ (b) $5 \times 6 + 4 \div 3 = \frac{37}{6}$
(c) $6 \times 3 + 12 \div 3 = 21$ (d) $18 \times 6 \div 8 - 12 = 36$
80. How many odd numbered pages are there in a book of 1089 pages?
(a) 542 (b) 545 (c) 544 (d) 546
81. At the end of a business conference all the ten people present, shake hands with each other only once. How many handshakes were there altogether?
(a) 20 (b) 45 (c) 55 (d) 90
82. The current age of Savan is four times the age of Akshan. 10 yr later from now, Savan's age will be twice the age of Akshan. What is Savan's current age?
(a) 30 yr (b) 20 yr (c) 10 yr (d) 5 yr

Direction for questions (83-84): Find the missing number from the given alternatives.

83.

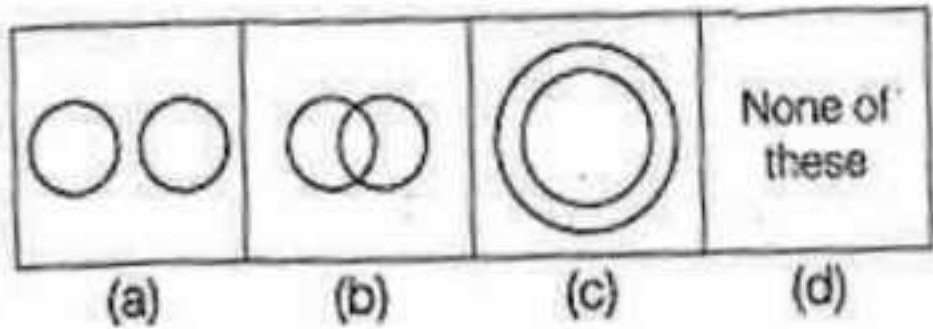
35	40
?	45

(a) 55 (b) 48 (c) 52 (d) 50
84.

4	5	6
2	3	7
1	8	3
21	98	?

(a) 85 (b) 94 (c) 104 (d) 49

85. Which one of the following diagrams best depicts the relationship between Female and Teacher?



Direction (Q. Nos - 86): Read the given question and decide which of the following statements is/are sufficient to answer the question.

86. Question: What is the age of Sriram?

Statements

I. Sriram is 32 yr elder to Shyam.

II. Shyam is 2 yr old now.

(a) Only II is sufficient.

(b) Either I or II is sufficient.

(c) Only I is sufficient.

(d) Both I and II are sufficient.

87. If in an examination hall, you find the question paper is too tough to be answered satisfactorily by you, the best thing to do for you is to

(a) tell the examiner that the questions are out of course.

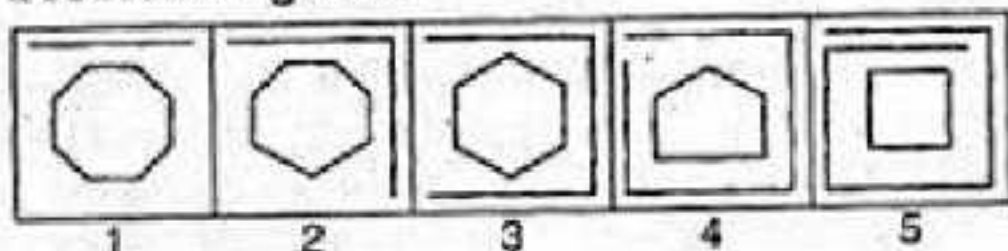
(b) provoke the candidates to walk out of the examination hall.

(c) try to know something from your neighbour.

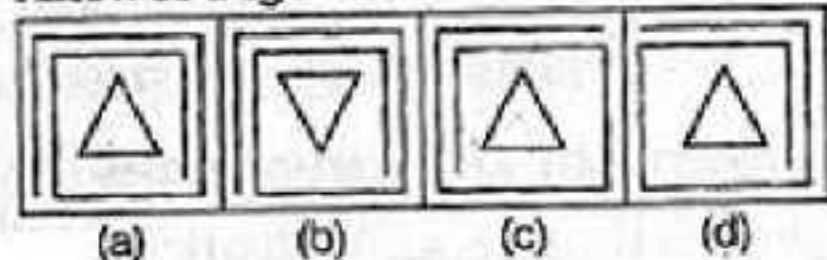
(d) try to solve the questions as much as you know with a cool head.

88. In the following question, a group of five figures following a certain sequence is given as problem figures. Problem figures are followed by another group of four figures known as answer figures marked as (a), (b), (c) and (d). Find out the figure from the answer figures which when placed next to the problem figures will continue the sequence of problem figures.

Problem Figures

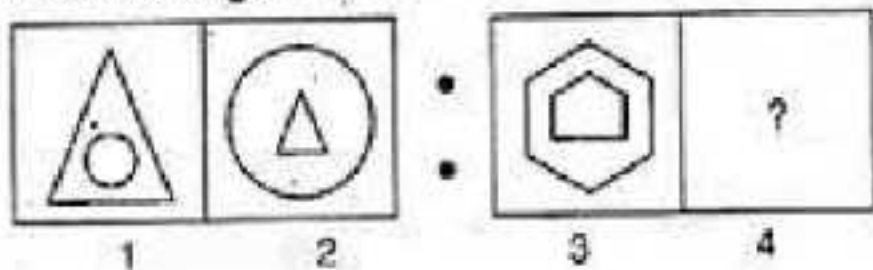


Answer Figures

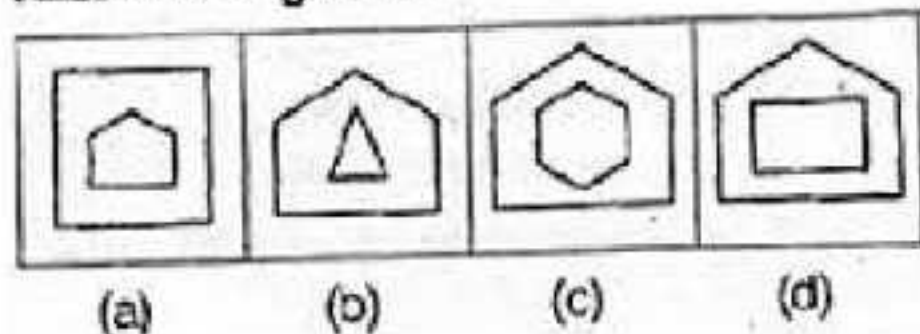


89. Find the figure from the answer figures that will replace the question mark (?) from the problem figures.

Problem Figures

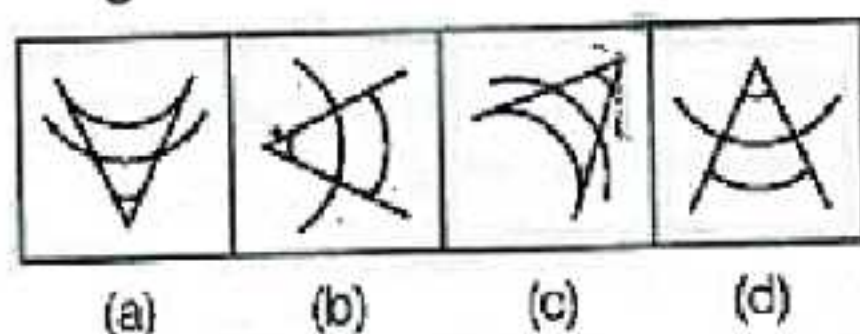


Answer Figures

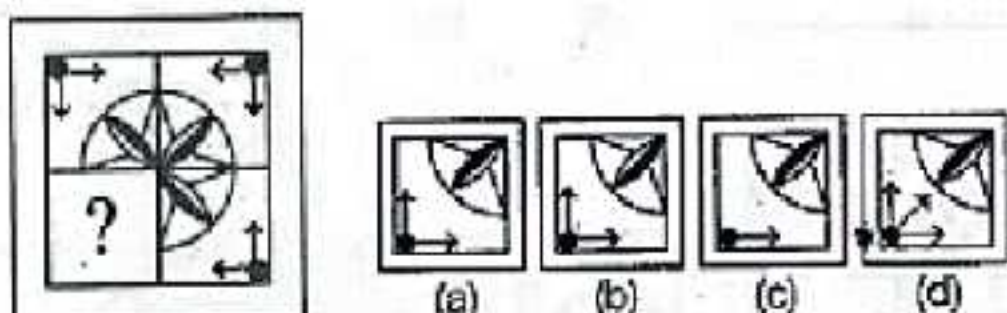


Rough work

90. In the following question, a group of four figures is given. Out of which three figures are similar to each other in a certain way and one is different from others. Find the odd figure out.

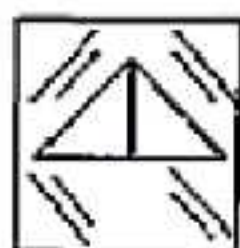


91. In the following question, a part of the given question figure is missing. Find out from the given answer figures (a), (b), (c) and (d), that can replace the '?' to complete the question figure.

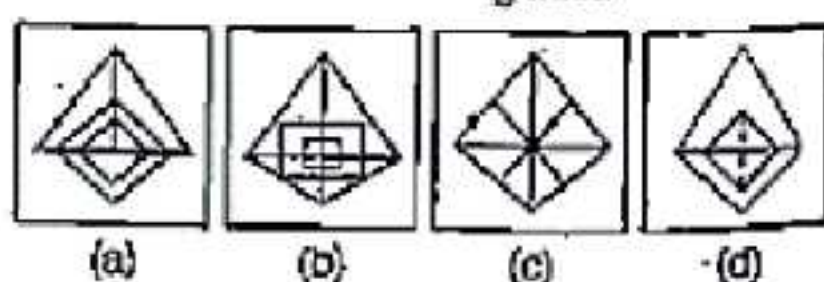


92. In the following question, find a figure from the answer figures, that can be formed by joining the pieces given in the question figure.

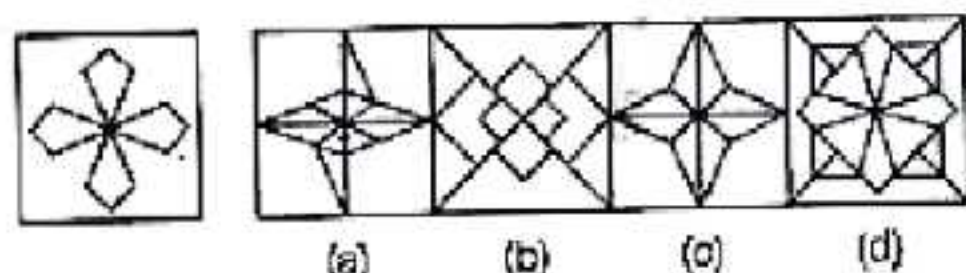
Question Figure



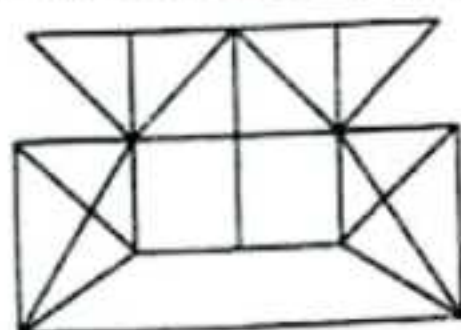
Answer Figures



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



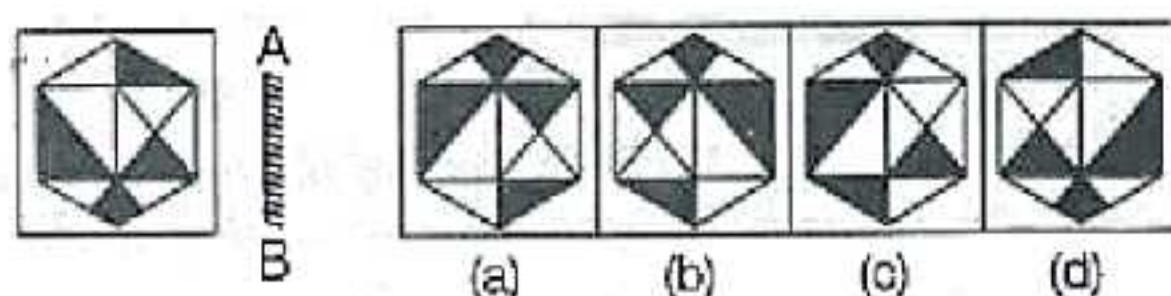
94. How many straight lines are there in the figure given below?



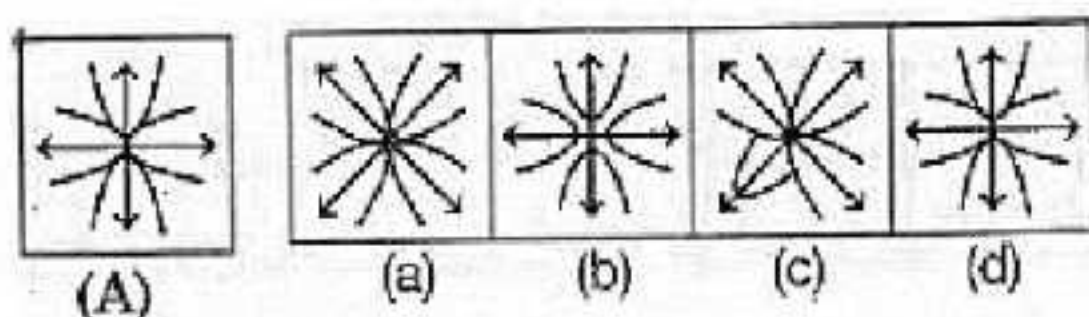
- (a) 16 (b) 17 (c) 18 (d) 19

Rough work

95. In the following question, choose the correct mirror image from the alternatives (a), (b), (c) and (d). When mirror is placed along the line AB.

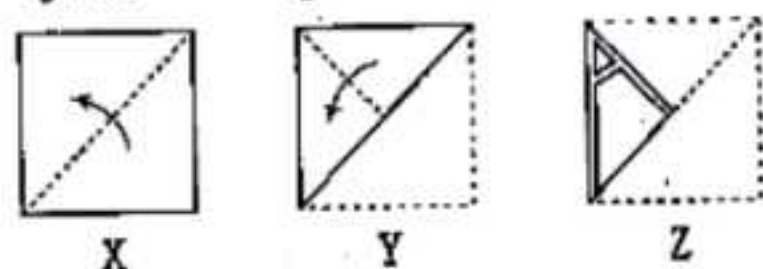


96. Find the water image of the object given in the question figure denoted by (A) out of the figures given in the answer figure (a), (b), (c) and (d).

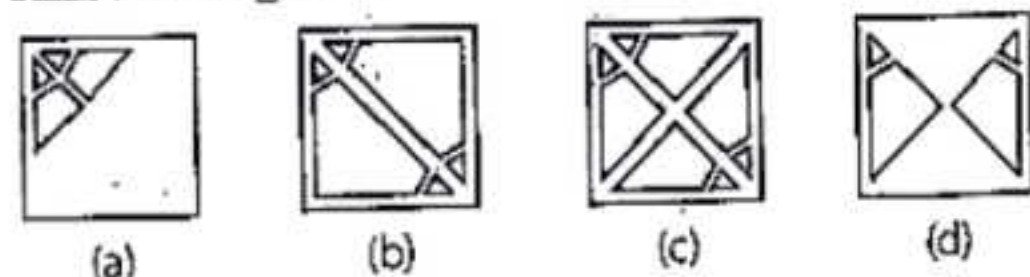


97. In the following question, a transparent sheet is folded in the manner shown in the question figure. Select the figure out of the answer choices showing the unfolded pattern after the punches(cut)

Question Figures

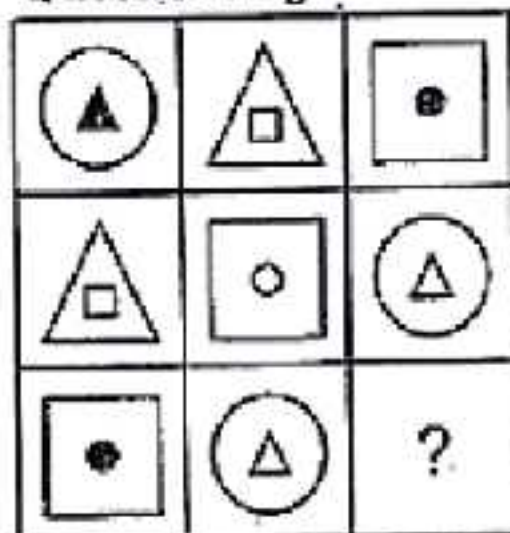


Answer Figures

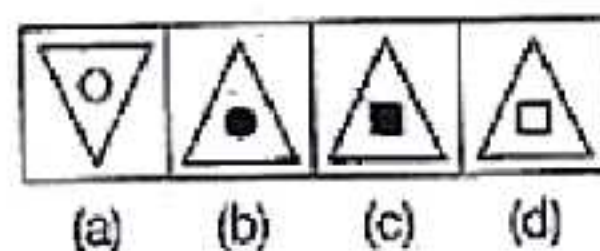


98. In the following question, find out the answer figure which completes the question figure matrix.

Question Figure

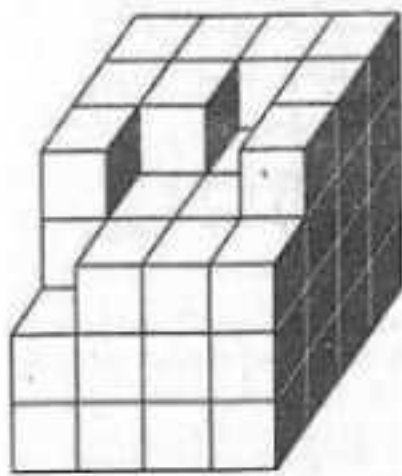


Answer Figures

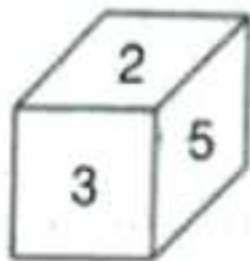


Rough work

99. How many cubes are there in the following figure?



- (a) 54 (b) 55 (c) 56 (d) 58
100. What digit will take place at the face opposite to the face having digit 2?



- (a) 1/4 (b) 4 (c) 1/6 (d) 1/4/6

Rough work

ANSWER KEY

[illegible]



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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