

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 10th

Head Office: SHIMLA

Aspire Academy, Near HDFC Bank Phase-III
BCS New Shimla-171009, Ph. 0177 2673990
☎ 98166-23676, 98823-72779

Branch Office: HAMIRPUR

1st Floor, Ward No. 2, Antriksh Mail, near Gandhi
Chowk, Pratap Nagar, Hamirpur - 177001
☎ 62302-31676, 80913-13676

ACS Mandi

Sundemagar Baggi main Road,
Mandi - 175018
☎ 94595-00076, 89889-00071

ACS Hamirpur

Gurukul Campus, Gandhi Chowk,
Hamirpur - 177001
☎ 94597-00041, 94598-00041

ACS Dharamshala

H.no 234, Lower, Shyam Nagar,
Dharamshala - 176215
☎ 93172-59724, 93172-59725

PHYSICS

1. **The persistence of vision in the human eye lasts for about:**
(a) 1/16th of a second (b) 1/10th of a second
(c) 1/25th of a second (d) 1/5th of a second
2. **The ability of the eye lens to adjust its focal length is called:**
(a) Adaptation (b) Accommodation
(c) Magnification (d) Correction
3. **What is the power of a lens with a focal length of -2 meters?**
(a) +0.5 D (b) -2 D
(c) +2 D (d) -0.5 D
4. **A concave mirror has a focal length of 20 cm. An object is placed 30 cm from the mirror. What is the image distance?**
(a) 60 cm (b) -60 cm
(c) 40 cm (d) -40 cm
5. **A convex lens has a focal length of 15 cm. If the object distance is 10 cm, what is the magnification of the image?**
(a) +3 (b) -3
(c) -0.6 (d) +0.6
6. **A lens has a focal length of -10 cm. If an object is placed 20 cm from the lens, what is the nature of the image?**
(a) Real and inverted (b) Virtual and upright
(c) Real and upright (d) Virtual and inverted
7. **A lens has a power of +2D. What is the image distance when an object is placed 20 cm from the lens?**
(a) 20 cm (b) 30 cm
(c) 33.33 cm (d) 25 cm
8. **A lens forms an image at a distance of 20 cm on the same side as the object. The focal length of the lens is 10 cm. What type of lens is it, and what is the object distance?**
(a) Concave lens, 10 cm (b) Concave lens, 6.67 cm
(c) Convex lens, 10 cm (d) Convex lens, 6.67 cm

Rough work

9. 1 ampere current is equivalent to flow of

- (a) 6.25×10^{18} electrons s^{-1} (b) 2.25×10^{18} electrons s^{-1}
 (c) 6.25×10^{14} electrons s^{-1} (d) 2.25×10^{14} electrons s^{-1}

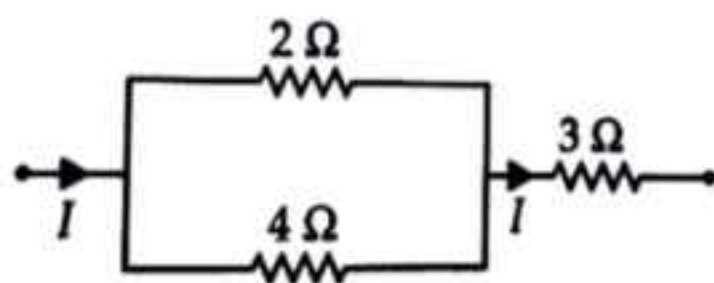
10. Two copper wires of length l and $2l$ have radii, r and $2r$ respectively. What is the ratio of their specific resistances?

- (a) 1: 2 (b) 2: 1
 (c) 1 : 1 (d) 1: 3

11. Nichrome or Manganin is widely used in wire bond standard resistors because of their

- (a) temperature independent resistivity
 (b) Very weak temperature dependent resistivity
 (c) Strong dependence of resistivity with temperature
 (d) Mechanical strength

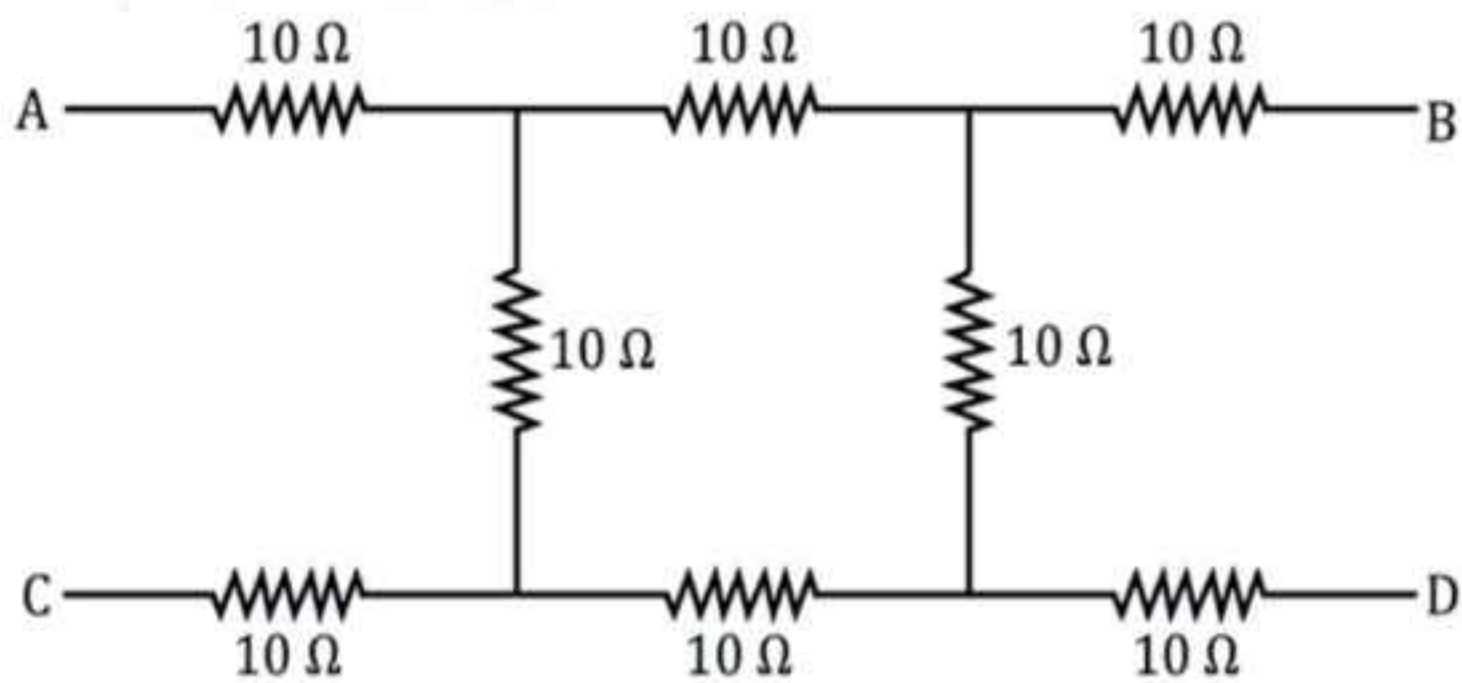
12. In the circuit shown in figure heat developed across 2Ω , 4Ω and 3Ω resistances are in the ratio of



- (a) 2: 4 :3 (b) 8: 4 :12
 (c) 4 : 8 :27 (d) 8: 4: 27

Rough work

13. What will be the equivalent resistance of circuit shown in figure between two points A and D?



- (a) $10\ \Omega$ (b) $20\ \Omega$
(c) $40\ \Omega$ (d) $30\ \Omega$

Rough work

14. Two elements X and Y present in air form a compound XY, which burns with a dazzling white flame and changes into a white powder. The molecular mass of XY is:-

- a. 39.98 u
- b. 50 u
- c. 20 u
- d. 24 u

15. In the following reaction



Identify A, B, C D respectively

- a. 4, 1, 3, 4
- b. 4, 3, 3, 1
- c. 4, 1, 4, 3
- d. 3, 4, 1, 4

16. Which of the following is a type of Exothermic reaction?

- a. Photosynthesis
- b. Melting of ice
- c. Thermal decomposition of calcium carbonate
- d. Respiration in humans.

17. In the decomposition reaction of lead Nitrate, there is an emission of brown fumes. The fumes are of

- a. $\text{Pb}(\text{NO}_3)_2$
- b. PbO
- c. NO_3
- d. NO_2

18. Which among the following is not a natural indicator for pH.

- a. Litmus
- b. Red Cabbage leaves
- c. Geranium flowers
- d. Phenolphthalein

19. In the reaction of Copper Oxide with dilute HCl there is a formation of blue green colour in the solution. This is due to the formation of

- a. Copper (I) Chloride
- b. Copper (II) chloride
- c. Both
- d. Only Copper Oxide

20. In the pH, 'p' stands for

- a. Potential
- b. Power
- c. Potenz
- d. All of the above

21. When Acid rain flows into rivers, the pH of river

- a. lowers the pH
- b. Increases the pH
- c. No effect
- d. First Increases then decreases

22. Which of the following will not react with oxygen even at high temperatures?

- a. Magnesium
- b. Iron
- c. Gold
- d. Zinc

23. "Royal Water" is a freshly prepared mixture of

- a. Concentrated HCl + Concentrated HNO_3 (1:3)
- b. Concentrated HNO_3 + Concentrated HCl (1:3)
- c. Dil. HCl + Dil. HNO_3 (1:3)
- d. Dil. HNO_3 + Dil. HCl (3:1)

24. Which of the following process require excess of air

- a. Calcination
- b. Roasting
- c. Both
- d. None

25. Oil which contains "....." is choosed for cooking?

- a. Saturated fatty acid
- b. Unsaturated fatty acid
- c. Any of them
- d. Statements are incomplete

26. Pure ethanoic acid often freezes during winters and this is also known as Glacial acetic acid. The melting point of pure ethanoic acid is

- a. 16.85°C
- b. 15°C
- c. 10°C
- d. -15°C

BIOLOGY**10TH BOH**

27. During photosynthesis light energy is converted into which energy
a. Electrical energy b. Chemical energy c. Potential energy d. All of the above
28. Cilia helps in movement of food in
a. Amoeba b. Hydra c. Paramecium d. Yeast
29. Emulsified fat is digested by
a. Pepsin b. Trypsin c. Bile d. Lipase
30. Pyruvate of pyruvic acid is
a. 6-Carbon molecule b. 2-Carbon molecule c. 3-Carbon molecule d. 4-Carbon molecule
31. Deoxygenated blood from entire body enters in
a. Left Atrium b. Right Atrium c. Left Ventricle d. Right ventricle
32. Which vessels in heart have thick elastic walls
a. Arteries b. Veins c. Capillaries d. Lymph vessel
33. Substance like glucose, salts, H_2O in the filtrate are
a. Reabsorbed b. Secreted c. Remains unchanged d. None of above
34. Receptors which detect smell are
a. Olfactory receptor b. Taste receptor c. Gustatory receptor d. Thermo receptor
35. Communication between central nervous system and other parts of body is facilitated by
a. CNS (Central nervous system) b. PNS (Peripheral nervous system) c. ANS d. SNS
36. Which plant hormone inhibit growth
a. Auxin b. Cytokinin c. Gibberellin d. Abscissic acid
37. Change associated with puberty are due to which hormone in males
a. Oestrogen b. Thyroxin c. Testosterone d. Thymosin
38. Which structure in plants gets converted to fruit
a. Ovary b. Ovule c. Pollen tube d. Stigma
39. Which contraceptive devices are used in uterus to prevent pregnancy
a. Copper-T b. Oral pill c. Condoms d. All of above
40. In F_2 generation Mendel got which phenotypic ratio in monohybrid cross
a. 1:2:1 b. 3:1 c. 9:3:3:1 d. 1:1:1:1

ROUGH-WORK

41. Which of the following have non-terminating repeating decimal?
 (a) $\frac{2}{25}$ (b) $\frac{2}{7}$ (c) $\frac{231}{2^2 \times 5^2 \times 7}$ (d) $\frac{1323}{6^3 \times (35)^2}$
42. Four positive integers sum to 125. If the first of these numbers is increased by 4, the second is decreased by 4, the third is multiplied by 4 and the fourth is divided by 4, we find four equal numbers, then four original integers are:-
 (a) 16, 24, 5, 80 (b) 8, 22, 38, 57 (c) 7, 19, 46, 53 (d) 12, 28, 40, 45
43. The lowest common multiple of two numbers is 14 times their highest common factor. The sum of L.C.M. and H. C. F. is 600. If one number is 80, then the other number is
 (a) 600 (b) 520 (c) 280 (d) 40
44. If α , β and γ are zeros of the polynomial $f(x) = ax^3 + bx^2 + cx + d$, then $\frac{1}{\alpha} + \frac{1}{\beta} + \frac{1}{\gamma} =$
 (a) $-\frac{b}{d}$ (b) $\frac{c}{d}$ (c) $-\frac{c}{d}$ (d) $-\frac{c}{a}$
45. If the polynomial $8x^4 + 14x^3 - 2x^2 + Px + q$ is exactly divisible by $4x^2 + 3x - 2$, then the values of p and q respectively are
 (a) 2 and 0 (b) -7 and 2 (c) 5 and -3 (d) 4 and -1
46. The sum of the remainders obtained when $2x^3 + (P + 2)x + P - 2$ is divided by $x - 2$ and when it is divided by $x + 1$ is 0. Find the value of P .
 (a) 3 (b) -2 (c) -4 (d) 8
47. Aruna has only Rs.1 and Rs.2 coins with her. If the total number of coins that she has is 50 and the amount of money with her is Rs.75, then the number of Rs.1 and Rs.2 coins are, respectively
 (a) 35 and 15 (b) 35 and 20 (c) 15 and 35 (d) 25 and 25
48. Solve for x and y :
 $bx + ay = a + b$,
 $ax\left(\frac{1}{a-b} - \frac{1}{a+b}\right) + by\left(\frac{1}{b-a} - \frac{1}{b+a}\right) = \frac{2a}{a+b}$
 (a) $x = \frac{b^2 + a^2}{ab + b^2}$, $y = \frac{2b}{a+b}$ (b) $x = \frac{2a}{a-b}$, $y = \frac{2b}{b-a}$
 (c) $x = \frac{a^2 + b^2}{a^2 + ab}$, $y = \frac{-2b}{a-b}$ (d) $x = a^2 + b^2$, $y = 2ab + a^2$
49. For which value of p , the following pair of linear equations $3x + py = 7$, $px + 3y = 15$ will have no solutions?
 (a) ± 9 (b) ± 5 (c) ± 3 (d) ± 4

Rough work

50. The roots of the quadratic equation $x^2 - 4x - \log_3 a = 0$ are real. Then what is the least value of a ?
 (a) 64 (b) 1/81 (c) 1/64 (d) 81
51. Let $\alpha \neq \beta$, $\alpha^2 + 3 = 5\alpha$ and $\beta^2 = 5\beta - 3$. The quadratic equation whose roots are α/β and β/α will be:-
 (a) $3x^2 - 19x + 3 = 0$ (b) $3x^2 + 19x + 3 = 0$
 (c) $3x^2 - 19x - 3 = 0$ (d) $3x^2 - 3x + 1 = 0$
52. For which positive values of k and p , equations $2x^2 + px + 8 = 0$ and $p(x^2 + x) + k = 0$ have equal roots?
 (a) $k = 1, p = 4$ (b) $k = 2, p = 8$ (c) $k = 4, p = 8$ (d) $k = 2, p = 4$
53. If $\operatorname{cosec} \theta - \sin \theta = m$ and $\sec \theta - \cos \theta = n$, then find the value of $(m^2 n)^{2/3} + (mn^2)^{2/3}$.
 (a) 0 (b) $\sin \theta$ (c) 1 (d) $\cos \theta$
54. Evaluate:

$$\frac{2\sin 68^\circ}{\cos 22^\circ} - \frac{2\cot 15^\circ}{5\tan 75^\circ} - \frac{3\tan 45^\circ \tan 20^\circ \tan 40^\circ \tan 50^\circ \tan 70^\circ}{5}$$

 (a) 1 (b) 4 (c) 2 (d) 3
55. If $\sin^4 x + \sin^2 x = 1$, then the value of $\cos^4 x + \cos^2 x$ is
 (a) $\cos^2 x$ (b) $\sin^2 x$ (c) $\tan^2 x$ (d) None of these
56. The length of shadow of a building when the sun's altitude is 60° is 20m less than that it was when it was 45° . The height of the building is-
 (a) 54.48m (b) 47.32m (c) 64.32m (d) 57.48m
57. The angle of depression of a car moving with uniform speed towards the building as observed from the top of the building is found to be 30° . The angle of depression change to 60° after 12 seconds. After what time it will reach the base?
 (a) 6sec. (b) 8 sec. (c) 4 sec. (d) 12 sec.
58. From the top of tower h m high, the angles of depression of two objects, which are in line with the foot of the tower are α and β ($\beta > \alpha$). Find the distance between two objects.
 (a) $h(\tan \alpha - \tan \beta)$ (b) $h(\cot \alpha - \tan \beta)$ (c) $h(\cot \alpha - \cot \beta)$ (d) $h(\cot \alpha + \cot \beta)$
59. Curved surface area of a conical cup is $154\sqrt{2}$ cm² and base radius is 7cm. Find the angle at the vertex of the conical cup.
 (a) 90° (b) 60° (c) 45° (d) 30°

Rough work

60. The volume of a cuboid is $20\sqrt{42} \text{ m}^3$. Its length is $5\sqrt{2} \text{ m}$, breadth and height are in ratio $\sqrt{3} : \sqrt{7}$, find its height.
- (a) $\sqrt{7} \text{ m}$ (b) $3\sqrt{7} \text{ m}$ (c) $4\sqrt{7} \text{ m}$ (d) $2\sqrt{7} \text{ m}$

MENTAL ABILITY

Direction (Q. Nos- 61): Study the following alphanumeric series carefully and answer the questions given below.

7A6P&R\$4YQ%T@39SIO99JLEU*K#3

Step I The letters which are immediately preceded and immediately followed by a symbol are arranged in the end of the series in the alphabetical order.

(They are arranged just after 3)

Step II The number which are immediately preceded by the letter and immediately followed by the symbol are arranged between 9 and S in the increasing order.

Step III The number which are immediately followed by letter are interchanged its position with respect to the element just after it.

(Step II is applied after Step I and Step III is applied after step II)

61. Which of the following is the addition of 4th element from right end in Step II and 4th element from left in Step III?
- (a) 7(b) 10(c) 9(d) 18
62. Select the related word from the given alternatives.
- Origami : Paper : : I ke bana : ?
- (a) Tapertry(b) Forest(c) Plants(d) Flowers
63. Find out the odd one from the given options which is different from others.
- (a) Chandragupta : Mauryan(b) Babar : Mughal
- (c) Kanishka : Kushan(d) Mahavira : Jainism

Direction (Q. Nos- 64): Study the information and answer the following question. In a certain code language.

"Seemed peer attend" is coded as "18BV 20BZ 19CW"

"Arrive Assessing file" is coded as "22BZ 19DZ 12RV"

"Double systems possible" is coded as "19BY 21LY 25CV"

64. What is the code for 'peer loom'?
- (a) 15CO 18BC(b) 15BO 18BV(c) 15BO 18CV(d) 18CO 15BV
65. What comes in place of (?) in the series given below?
- KLMnO, qRsTu, WxYzA, cDeFg,?
- (a) iJkLm(b) HiJkL(c) IjKlM(d) hijKl

Rough work

Direction (Q. Nos- 66): In the following question, the symbols #, &, @ and \$ are used with the following meanings as illustrated below. Study the following information and answer the given questions.
Note: The directions which are given indicates exact directions.

- P#Q Q is in the South direction of P.
- P@Q Q is in the North direction of P.
- P&Q Q is in the East direction of P at distance of either 12 m or 6 m.
- P\$Q Q is in the West direction of P at distance of either 15 m or 3 m.
- P#&Q Q or P is in the South-East direction of P or Q.
- P@&Q P or Q is in the North-East direction of Q or P.

66. K#&T\$M#&S&K&Z are related to each other such that K is in North of M, then what is the probable direction of Z with respect to M?
(a) North-East (b) West (c) South-West (d) East

Direction (Q. Nos- 67): Read the information carefully and answer the following question.
J is married to C. B and D are the children of C. D is married to daughter of K, who is married to M. K is mother of R, who is husband of N. H is the grandson of C and K. L is daughter of N. V is only sibling of H. D has only one daughter.

67. If T is only daughter of K, then how is T related to D?
(a) Wife (b) Son-in-law (c) Daughter (d) Husband

Direction (Q. Nos- 68): Study the following information carefully and answer the question asked.
Seven friends A, B, C, D, E, F and G are sitting around a circular table facing either the centre or outside. Each one of them belongs to a different department viz. Finance, Marketing, Sales, HR, Corporate Finance, Investment Banking and Operations but not necessarily in the same order. C sits third to the right of G. G faces the centre. Only one person sits between C and the person working in the HR department. Immediate neighbours of C face outside. Only one person sits between F and D. Both F and D face the centre. D does not work in the HR department. A works in Investment Banking Department. A faces the centre. Two people sit between the person who work in Investment Banking and Marketing Departments. The person who works in Corporate Finance sits to the immediate left of E. C faces same direction as E. The person who works in Sales department sits to the immediate left of the person who works for Operations department.

68. Who amongst the following sit between the persons who work for Marketing and Investment Banking departments when counted for the left hand side of the person working for Marketing department?
(a) F and G (b) E and C (c) C and B (d) F and D
(e) B and D

Direction (Q. Nos- 69): Study the following information carefully and answer the below question.
Seven flights are bound to fly to different cities viz. Dubai, Sydney, London, Paris, Zurich, Madrid and Rome from Monday to Sunday of the same week. Each flight departs at a different time viz. 4 pm, 5 pm, 6 pm, 7

pm, 8 pm, 9 pm and 10 pm, in the night on their respective days. None of the information given is necessarily in the same order.

- The flight to Dubai departs on Wednesday but neither at 5 pm nor at 8 pm.
- There is only one day between the flight to Dubai and the flight which departs at 10 pm.
- There are only three days between the flights which departs at 5 pm and the flight to Rome.
- The flight which departs at 5 pm departs before the Rome bound flight.
- The flight which departs on Monday neither departs at 5 pm nor does it fly to Sydney.
- The flight which departs on Saturday leaves at a time before the flight which departs on Tuesday (i.e. if the Tuesday flight departs at 7 pm, then the flight on Saturday departs at 6 pm, 5pm or 4 pm.)
- The flight to London departs on the day immediately before the day on which the 8 pm flight departs.
- The flights to Paris departs at 7 pm.
- There is a difference of 2 h between the Zurich bound flight and the London bound flight (i.e. if a London bound flight departs at 4 pm, then the Zurich bound flight departs at either 2 pm or 6 pm on its respective day).

69. Which flight departs exactly 1 h after the Sydney bound flight on its scheduled day?
- (a) The flight which departs on Friday (b) The flight which departs on Tuesday
- (c) The flight which departs at 10 pm (d) The London bound flight

70. On which dates of April, 2012 will a Sunday come?
- (a) 5, 12, 19, 26 (b) 1, 8, 15, 22, 29 (c) 3, 10, 17, 24 (d) 7, 14, 21, 28

Direction (Q. Nos- 71): In the following question two rows of numbers are given. The resultant number in each row is to be worked out separately based on the following rules and the question below the rows of numbers are to be answered. The operations of numbers progress from left to right.

Rules

- (i) If a two-digit even number is followed by an another even number, the first one is to be divided by the second one.
- (ii) If an even number is followed by a prime number, the two are to be multiplied.
- (iii) If an odd number is followed by an another odd number, the two are to be added.
- (iv) If a three-digit number is followed by a two-digit number which is a perfect square, the second number is to be subtracted from the first number.
- (v) If a three-digit number is followed by a two-digit number which is not a perfect square, the first number is to be divided by the second one.

71. 24 7 81
X 27 19
- If 'X' is the resultant of the first row, what is the resultant of the second row?
- (a) 87 (b) 114 (c) 4 (d) 6

72. In a family, a couple has a son and a daughter. The age of the father is three times that of his daughter and the age of the son is half of his mother. The wife is 9 yr younger to her husband and the son is seven years older than daughter. What is the age of the mother?
- (a) 40 yr (b) 45 r (c) 50 yr (d) 60 yr

Rough work

73. In the following question which character will complete the given pattern, when placed at the sign of interrogation?



- (a) J and 80 (b) O and 83 (c) N and 7 (d) P and 85

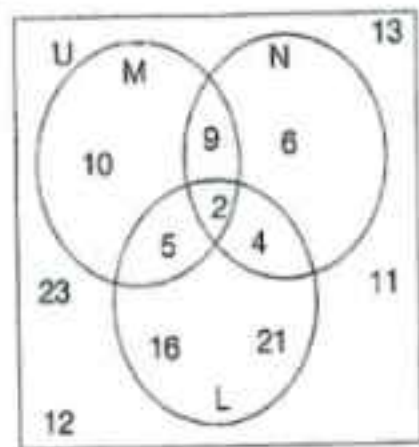
DIRECTIONS (Q. Nos. 74) In this question, relationship between different elements is shown in the statements. These statements are followed by two conclusions.

Give Answer

- (a) If only Conclusion I follows.
(b) If only Conclusion II follows.
(c) If either Conclusion I or II follows.
(d) If neither Conclusion I nor II follows.

74. **Statements** $M > L \geq K \leq J, N \geq R \geq S = M$
Conclusions I. $R > J$ II. $J \geq R$

75. In the given diagram, Set U is the universal set and Set L, M and N represent students studying History; Geography and Language, respectively. What is the total number of students Studying History and Geography but not Language?



- (a) 5 (b) 2 (c) 12 (d) 7

76. In a certain class, the roll number of Dinesh is 10 while that of Uma is 16. What is the roll number of Damyanti? Which of the below information is additionally required to answer the above question ?

(a) There are 20 students in the class.
(b) The roll number of Damyanti is 6 places away from roll number of Dinesh.
(c) The roll number of Damyanti is after Uma.
(d) The number of students having roll number between Damyanti and Dinesh is the same as the students having roll number between Damyanti and Uma.

Rough work

DIRECTIONS (Q. Nos. 77): Study the following information carefully to answer the given question
A number arrangement machine when given an input line of numbers rearranges them following a particular rule. The following is an illustration of input and rearrangement.

Input Study tips strategies article week vocabulary
Step I article strategies study tips vocabulary week
Step II 1014 GV30 GW10 RK12 LI30 VV12
Step III 5 3 13 3 3
Step IV 15 9 3

Step IV is the last step of the rearrangement. As per the rules followed in the above steps, find out in the following question the appropriate steps for the given input.

Input english current affairs based hindu thoughts

77. Which of the following is the product of the numbers which are 2nd from right in Step IV and 3rd from left end in Step III?
(a) 5 (b) 8 (c) 2 (d) 11

DIRECTION(Q. Nos. 78): Following are the conditions for the selection of Head Coach for Indian Cricket Team. The conditions are

- (i) Candidate should have successfully coached a cricket team of any of the member countries of the International Cricket Council (ICC), at the first class or at the international level.
- (ii) Candidate should be qualified through a certification/ assessment program conducted by any of the full member countries and should currently possess such a valid certification.
- (iii) Communication skills benefitting the coach of an international team are mandatory along with the ability to effectively convey the light message and must demonstrate proficiency in English.
- (iv) Candidate should have an impeccable personal record, devoid of any past or current disputes, with any of the member boards of the ICC or its affiliates.

A person is selected as Head Coach of Indian Cricket team, if he fulfils the above criteria except:

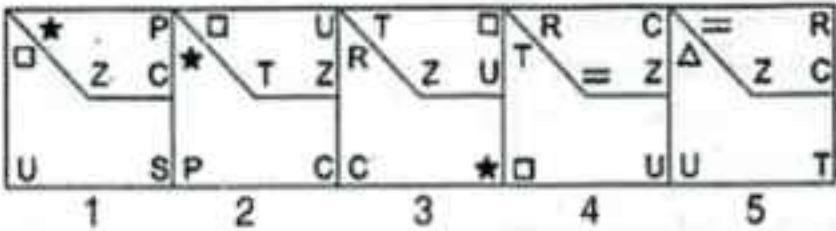
- A. If the candidate does not fulfil anyone of the criteria and his name is asked to be included by all of the 3 cricket Advisory committee members then he can be selected as Head Coach.
- B. Candidate doesn't have any coaching experience, but he was a caption of International Cricket Council (ICC) world cup wining team then he may be referred to the Board of Control for Cricket in India (BCCI) secretary.
- C. Candidate doesn't have proficiency in English but he is able to communicate in Hindi and other regional Indian Languages then he may be referred to the Cricket Advisory committee members.

78. What is the decision to be taken in his case?
Jaffer has coached the Indian Railways team in the first class cricket and has the certification of the ICC and is well versed in English communication and he has no records of disputes.
(a) Data inadequate.
(b) The candidate is not be selected.
(c) The candidate is to be selected.
(d) Referred to the cricket Advisory committee members/BCCI secretary.

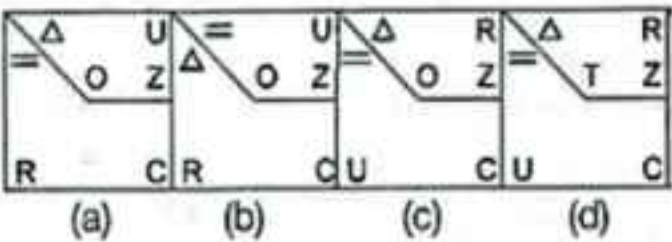
Rough work

Direction (Q.Nos. – 79) The question consists of five figures marked 1, 2, 3, 4 and 5 named on the problem figure and is followed by four answer figures marked (a), (b), (c) and (d). select a figure from the answer figures which will continue the series established by the five problem figures.

79. **Problem Figures**

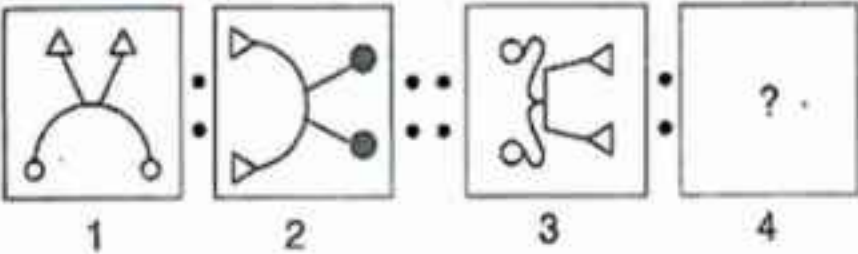


Answers Figures

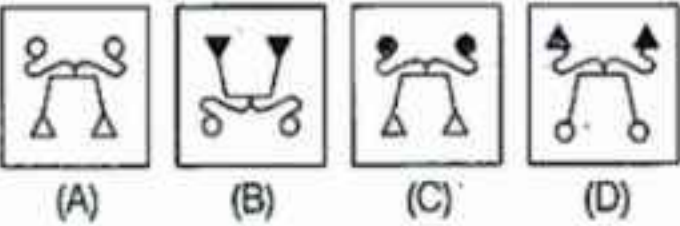


Direction (Q.Nos. – 80) The second figure in the first pair of the problem figures bears a certain relationship with the first figure. Similarly, one of the answer figure bears the same relationship with the first figure in the second pair of the problem figures. You have to select that figure from the set to answer figures which will replace question mark?

80. **Problem figure**

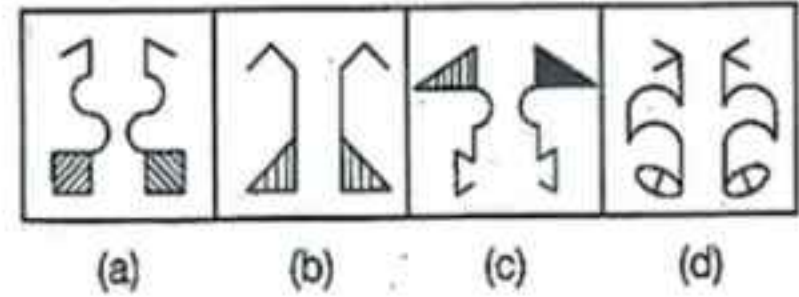


Answer Figures



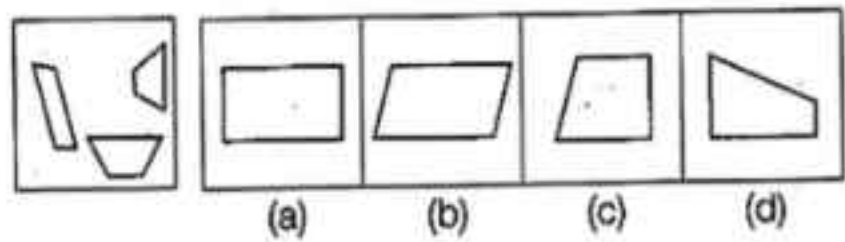
Direction (Q.Nos. – 81) In the following question, four figures are given. Three are similar in a certain way and so form a group. Find out which one of the figures doesn't belong to that group.

81

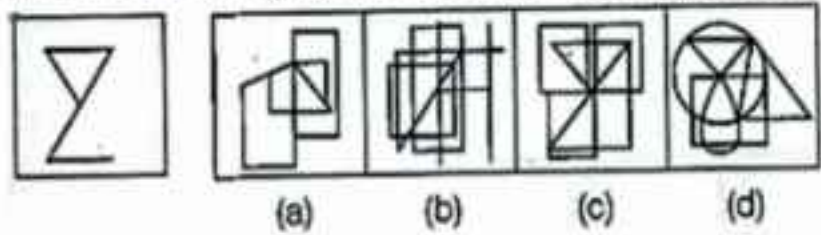


Rough work

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



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



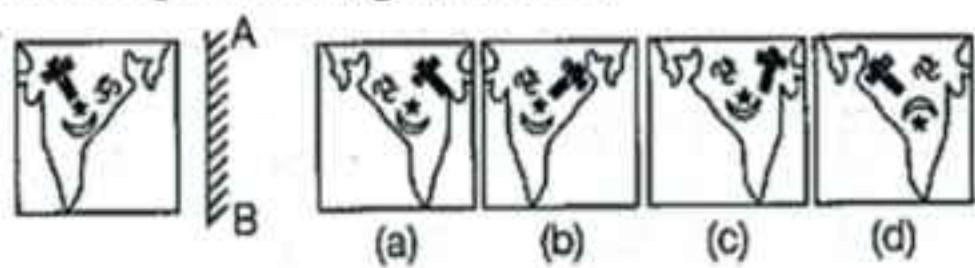
84. Consider the figure given below and answer the question that follows.



What is the minimum number of different colours required to paint the figure given above such that no two adjacent regions have the same colour?

- (a) 3 (b) 4 (c) 5 (d) 6

85. 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.



86. In the following question mixed alphabet number word is given and followed by four alternatives (a), (b), (c) and (d) showing possible water images of that word or number. One out of these four alternatives shown the exact water image of that word or number. Choose the alternative which shown the correct water image of that word or number.

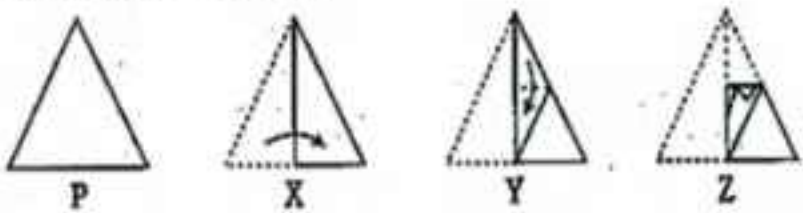
US91Q4M5W3

- (a) 3W2M5Q419SU (b) 3W2M5Q419SU (c) 3W2M5Q419SU (d) 3W2M5Q419SU

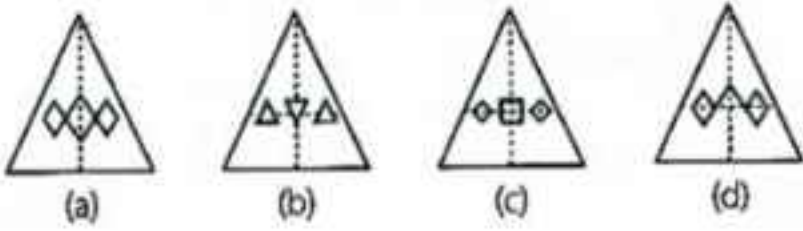
Rough work

87. 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).

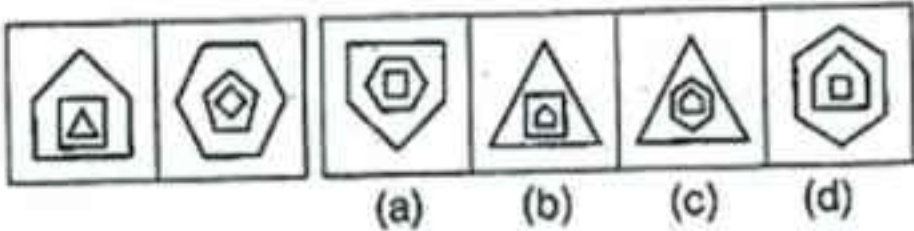
Question Figures



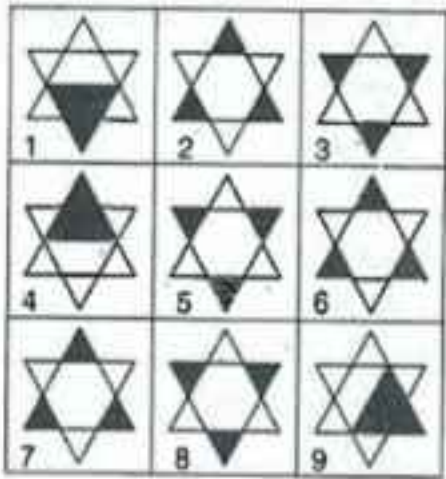
Answer figures



88. In the following question, choose that answer figure which is similar to the question figures:

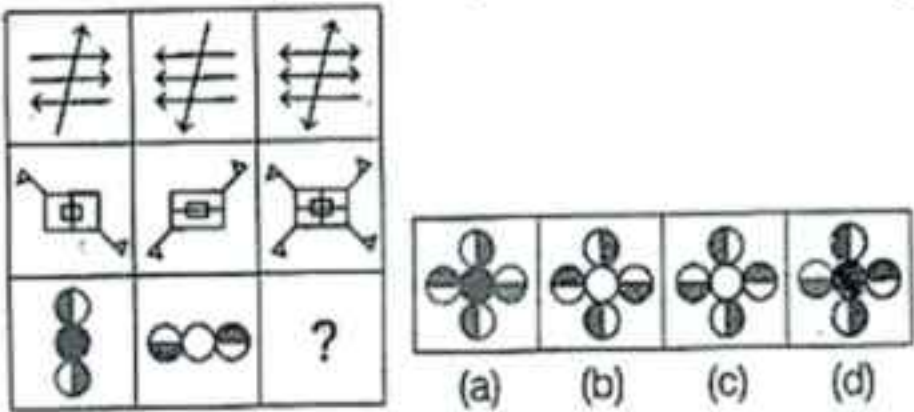


89. In the following question, group the given figures into different classes on the basis of their orientation, shape etc, and choose the correct option.



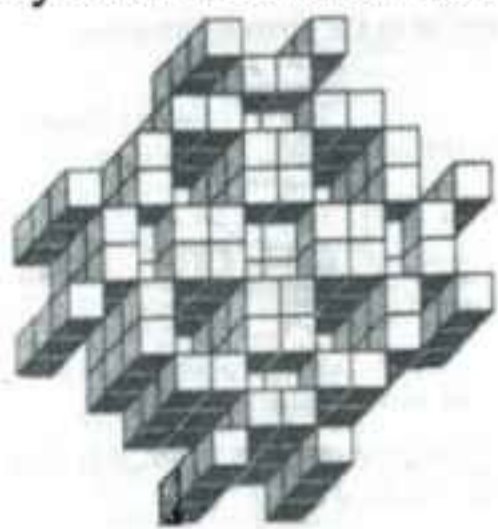
- (a) (1, 4, 8), (2, 5, 7), (3, 6, 9) (b) (1, 5, 9), (2, 4, 7), (3, 6, 8)
(c) (1, 3, 8), (2, 5, 6), (4, 7, 9) (d) (1, 4, 9), (2, 6, 7), (3, 5, 8)

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



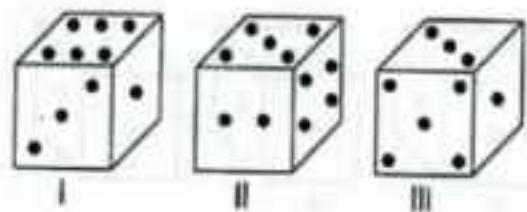
Rough work

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



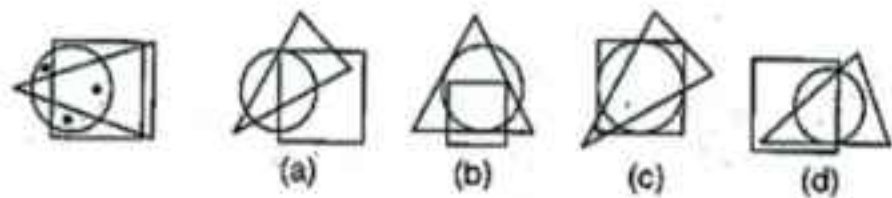
- (a) 144 (b) 150 (c) 158 (d) 168

92. From the given three positions of a single dice, find the number of dots at the face opposite to the face having 5 dots



- (a) 1 (b) 2 (c) 4 (d) 6

93. In the following question, dots are placed in the question figure. The figure is followed by four alternatives (a), (b), (c) and (d). one out of these four options contain region(s) common to circle , square and triangle, similar to that marked by the dot in question figure. Choose that figure.



Direction (Q.Nos. – 94) In the question below are given two statements followed by two conclusions numbered I and II. You have to take the two given statements to be true even if they seem to be at variance from commonly known facts and decide which of the given conclusion(s) logically follow(s) from the two given statements, disregarding commonly known facts.

Give answer

- (a) If only Conclusion I follows
(b) If only Conclusion II follows
(c) If either I or II follows
(d) If neither I nor II follows

94. **Statements**
Some trees are plants.
All bushes are plants:
Conclusions

Rough work

I. At least some trees are bushes.

II. Some trees are definitely not bushes.

Direction (Q.Nos. – 95) Study the following information in which a statement is followed by four conclusions, read carefully and answer the question below.

Other than being an essential source of water for Indian agriculture, the monsoon plays a critical role in flushing out pollutants over Asia. However, recently increased pollution particularly from coal burning - could potentially weaken this ability of the monsoon.

95. **Which of the following can be deduced from the given statement?**

(a) The annual average rainfall has remained the same because the frequency of heavy downpours increased in the past two decades.

(b) As the climate gets warmer and frequency of rains reduces, such spurts in coarse particles making breathing difficult will become a new normal and the government is not waking up to the alarm.

(c) Both the periodicity and duration of dry spells in the country were rising as total rainfall events in a year had fallen even though the average rainfall in a year has not changed much, a direct consequence of climate change.

(d) The unusually high concentration of particulate matter in the last few days in India clearly shows that air pollution is emerging as a big problem.

Direction (Q.Nos. – 96) In making decisions about important questions, it is desirable to be able to distinguish between 'strong' arguments and 'weak' arguments. 'Strong' arguments are those which are both important and directly related to the question. 'Weak' arguments are those which are of minor importance and also may not be directly related to the question or may be related to a trivial aspect of the question. Each question below is followed by two arguments numbered I and II.

You have to decide which of the arguments is a 'strong' argument and which is a 'weak' argument?

Give answer

(a) If only Argument I is strong.

(b) If only Argument II is strong.

(c) If either I or II is strong.

(d) If neither I nor II is strong.

96. **Statement**

should it be made compulsory for all the private sector organisations to reserve quota for socially backward classes?

Arguments

I. No, the private sector should not be governed by the Government rules.

II. Yes, private sector organisations should also contribute in upliftment of socially backward classes.

DIRECTIONS(Q. Nos. 97) In the question below, is given a statement followed by three assumptions numbered I, II and III. An assumption is something supposed or taken for granted, you have to consider the statement and the assumptions and decide which of the assumption(s) is/are implicit in the statement.

Rough work

97. Statement "If you have obtained 75% or more marks in X standard, your admission to our coaching class for XII standard is guaranteed", an advertisement.

Assumptions

I. Bright students generally do not opt for attending coaching classes.

II. The coaching class has adequate capacity to accomodate all such students.

III. The advertisement will be ignored.

(a) Only II is implicit

(b) Only III is implicit

(c) None is implicit

(d) Only I is implicit

DIRECTION (Q. Nos. 98): In the following question, there are two statements labelled as Assertion (A) and Reason (R). Give answer

(a) If both 'A' and R' are true and R' is the correct explanation of 'A'

(b) If both 'A' and 'R' are true but R' is not the correct explanation of 'A'

(c) If 'A' is true but R' is false

(d) If 'A' is false but 'R' is true

98. **Assertion (A)** Ventilators are provided near the roof.

Reason (R) Conduction takes place better near the roof.

DIRECTION (Q. Nos. 99): Below in question are given two Statements A and B. These statements may be either independent causes or may be effects of independent causes or of a common cause. One of these statements may be the effect of the other statement. Read both the statements and decide which of the following answer choices correctly depicts the relationship between these two statements.

Give answer

(a) If Statement A is the cause and Statement B is its effect

(b) If Statement B is the cause and Statement A is its effect

(c) If both statements are independent causes

(d) If both statements are effects of independent causes

99. **Statement A:** The average day temperature of the city has increased by about 2 degrees in the current year over the average of past ten years.

Statement B: More people living in rural areas of the state have started migrating to the urban areas in comparison with the earlier year.

DIRECTION (Q. Nos. 100): Given below are two matrices of 25 cells each containing two classes of number. The columns and rows of Matrix I are numbered from A to E and those of Matrix II from F to J. A number from these matrices can be represented first by its row number and next by its column number. e.g., 2' can be represented as AB, BD etc. Similarly, 1 can be represented by FJ, GF, etc. In each of the following examples identify one set of letters pair out of a, b, c and d which represents the given word.

Rough work

Matrix – 1

	A	B	C	D	E
A	0	2	3	4	5
B	5	3	0	2	4
C	2	5	4	3	0
D	3	0	5	4	2
E	2	0	5	3	4

Matrix - II

	F	G	H	I	J
F	6	8	7	9	1
G	1	7	6	8	9
H	9	8	7	6	1
I	1	9	8	7	6
J	9	6	8	7	1

100. Determine the letter group in the given alternatives which correctly denotes 7 4 2 8 3 5?
- (a) JI, BE, CA, HG, DA, AE

(b) GG, CC, EE, FG, BB, CE

(c) II, DD, AA, EE, BB, CC

(d) FH, AD, AC, AE, FG, AB

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.

ASPIRE is registered with Govt. Scholarship Program



मेधा प्रोत्साहन योजना



स्वर्ण जयंती
SUPER 100

FOR ANY ENQUIRY REALTED TO BOH, KINDLY CONTACT ON GIVEN NUMBERS:

Head Office: SHIMLA

Aspire Academy, Near HDFC Bank Phase-III
BCS New Shimla-171009, Ph. 0177 2673990

☎ 98166-23676, 98823-72779

Branch Office: HAMIRPUR

1st Floor, Ward No. 2, Antriksh Mall, near Gandhi
Chowk, Pratap Nagar, Hamirpur - 177001

☎ 62302-31676, 80913-13676

ACS Mandi

Sundemagar Baggi main Road,
Mandi - 175018

☎ 94595-00076, 89889-00071

ACS Hamirpur

Gurukul Campus, Gandhi Chowk,
Hamirpur - 177001

☎ 94597-00041, 94598-00041

ACS Dharamshala

H.no 234, Lower, Shyam Nagar,
Dharamshala - 176215

☎ 93172-59724, 93172-59725