

# OPSC

ODISHA PUBLIC SERVICE COMMISSION

## A.S.O

(ASSISTANT SECTION OFFICER)

### Test of Reasoning and Mental Ability

PAPER - II (A)



**Price: ₹ 150/-**

**A.S.O - Test of Reasoning and Mental Ability**

**Paper- II (A)**

**VANIK**

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Plot-1441, Opp. IOCL Petrol Pump, CRP Square,  
Bhubaneswar-751015, Odisha  
Ph. : (0674) 6556677, 8093556677  
Web : [www.vanik.org](http://www.vanik.org),  
E-mail : [vanikbbsr@gmail.com](mailto:vanikbbsr@gmail.com)

# Preface...

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**A**ssistant Section Officer Recruitment examination is conducted by Odisha Public Service Commission. Considering the nature and type of questions in the previous year examination, it is essential for the aspirants to follow a reference book which contains probable question for the upcoming examination with regard to Test of Reasoning & Mental Ability is all the more important.

Against this background, VANIK's newly published book "A.S.O. Test of Reasoning and Mental Ability" has been designed and authenticated by expert faculty members. It contains more than 1500 questions with solutions in Reasoning. All effort has been made to make this book error free. However inadvertent errors may have kept into the book. We solicit cooperation from the aspirants to bring the errors, if any to our knowledge.

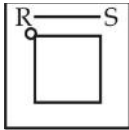
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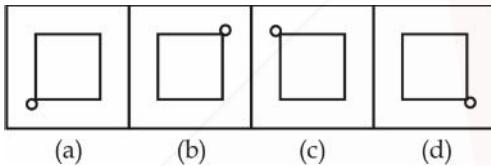
## PREVIOUS YEAR QUESTIONS

**Directions (1-4):** Choose the correct mirror image of the problem figure when the mirror is placed in R-S position

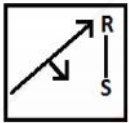
1. Problem Figure



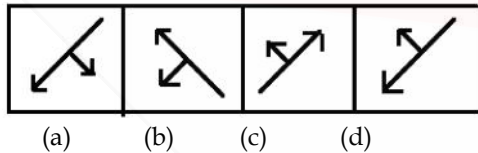
Mirror image



2. Problem Figure



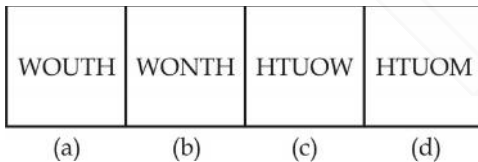
Mirror image



3. Problem figure



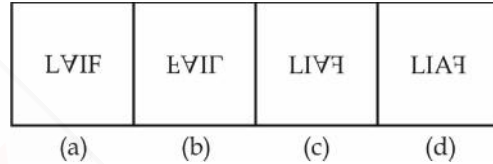
Mirror images



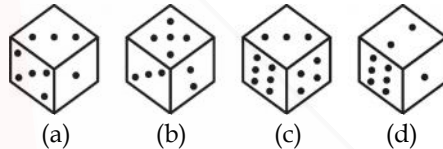
4. Problem figure



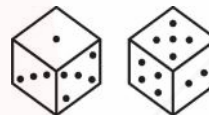
Mirror images



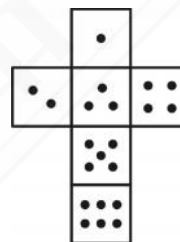
5. The total number of dots on opposite faces of a dice is always 7. Find the correct figure from the given alternatives.



6. Two positions of a dice with 1 to 6 dots on its faces are shown below. How many dots are there on the face opposite the face having 2 dots?



- (a) 1 (b) 3  
(c) 4 (d) 6
7. How many dots lies opposite the face having three dots, when the given figure is folded to form a cube?



- (a) 2 (b) 4  
(c) 5 (d) 6

**Directions (8-11):** A cube painted black on all six faces is cut into 27 small cubes of equal sizes.

8. How many small cubes have only one face painted?  
(a) 4 (b) 6  
(c) 8 (d) 12

9. How many small cubes have only two faces painted?

- (a) 4 (b) 6  
(c) 8 (d) 12

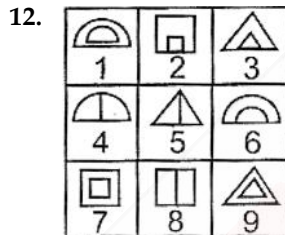
10. How many small cubes have only three faces painted?

- (a) 2 (b) 4  
(c) 6 (d) 8

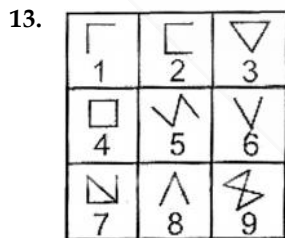
11. How many small cubes do not have any of the faces painted?

- (a) 1 (b) 4  
(c) 8 (d) None of these

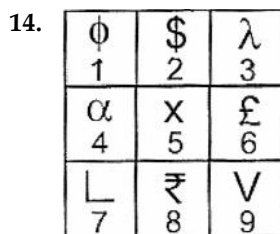
**Directions (12-14):** All nine figures of each question are numbered from 1 to 9. Arrange them into 3 groups according to their common properties.



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



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



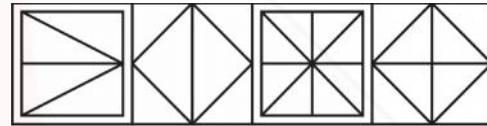
- (a) (4, 7, 9); (1, 3, 8); (2, 5, 6)  
(b) (1, 3, 4); (2, 6, 8); (5, 7, 9)  
(c) (1, 3, 4); (2, 5, 7); (6, 8, 9)  
(d) (1, 3, 8); (2, 5, 7); (4, 6, 9)

**Directions (15-16):** The problem figure is embedded in one of the four answer figures. Find the correct answer figures which contains the problem figure.

15. Problem figure

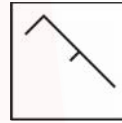


Answer figures

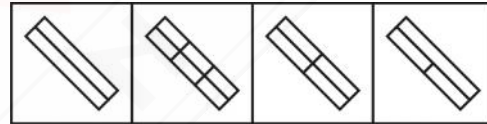


- (a) (b) (c) (d)

16. Problem figure



Answer figures



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

**Directions (17-18) :** Choose a correct sequence of ascending order of magnitude.

17.  $2^{12}$ ,  $3^8$ ,  $4^7$ ,  $10^3$

- (a)  $2^{12}$ ,  $3^8$ ,  $10^3$ ,  $4^7$  (b)  $10^3$ ,  $2^{12}$ ,  $4^7$ ,  $3^8$   
(c)  $10^3$ ,  $2^{12}$ ,  $3^8$ ,  $4^7$  (d)  $10^3$ ,  $4^7$ ,  $2^{12}$ ,  $3^8$

18. Trillion, Million, Billion, Thousand

- (a) Trillion, Thousand, Billion, Million  
(b) Trillion, Million, Billion, Thousand  
(c) Thousand, Billion, Million, Trillion  
(d) Thousand, Million, Billion, Trillion

**Direction (19-20):** In each of the following number series, a wrong number is given. Find out the wrong number.

19. 2, 6, 12, 18, 30, 42

(a) 6 (b) 12

(c) 18 (d) 30

20. 2, 3, 5, 7, 9, 11, 13, 17, 19

(a) 2 (b) 9

(c) 11 (d) 19

21. 861238742157862171413286

How many pairs of successive numbers have a difference of 2 each?

(a) 3 (b) 4

(c) 5 (d) 6

22. Lata ranked eighth from the top and thirty ninth from the bottom in a class. How many students are there in a class?

(a) 45 (b) 46

(c) 47 (d) 48

**Directions (23-25):** which of these jumbled words is the odd one out?

23. (a) FARFIGE (b) CWOR

(c) CIENCKH (d) CHTOSIR

24. (a) ART (b) GOD

(c) DOG (d) TAH

25. (a) EHOSU (b) EMEPLT

(c) QUOMSE (d) HURHCC

**Directions (26-27):** Six persons A, B, C, D, E, F are sitting around a circular table at equal distance from each other. A is sitting two place right of B who is exactly opposite to C. C is on immediately to the left of D, who is exactly opposite to E.

26. Who is the only person sitting between A & B

(a) F (b) E

(c) D (d) C

27. The angle subtended by C and F at the centre of the table is

(a)  $60^\circ$  (b)  $120^\circ$

(c)  $90^\circ$  (d)  $180^\circ$

28. Lata is twice as old as Gita. Three years ago, she was three times as old as Gita. How old Lata is now?

(a) 6 years (b) 8 years

(c) 10 years (d) 12 years

29. A man is facing north-west. He turns  $90^\circ$  in the clockwise direction and then  $135^\circ$  in the anticlockwise direction. Which direction is he facing now?

(a) north

(b) south

(c) east

(d) west

30. How many such pairs of letters are there in the word 'ENTHUSIASTIC' each of which has as many letters between them in the word as there are between them in English alphabet?

(a) 3

(b) 4

(c) 5

(d) None of the above

**Direction (31-32):** Study the following arrangement carefully and answer the questions given below.

I T # A J 7 B \$ D 2 K I % E L 5 H P E %

31. How many such symbols are there in the above arrangement, each of which is immediately followed by a vowel and not immediately preceded by a number?

(a) 1

(b) 2

(c) 3

(d) 4

32. How many such numbers are there in the above arrangement, each of which is immediately preceded by a letter and immediately followed by a symbol?

(a) none

(b) one

(c) two

(d) three

**Directions (33-34):** Each question below has a set of two statements. Each statement has three segments. Choose the alternative where the third segment in a statement can be logically deduced using both the preceding two segments.

33. (i) some boys are tall ; all tall persons are smart; some boys are smart

(ii) some boys are tall; some boys are smart; boys are either tall or smart

(a) only (i) (b) only (ii)

(c) neither (i) nor (ii) (d) none of the above

34. (i) All coins are crows; some crows are pens, no pen is coin.

(ii) All coins are crows; some crows are pens; some coins are pens.

(a) only (i) (b) only (ii)

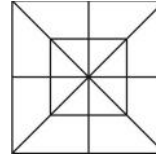
(c) neither (i) nor (ii) (d) both (i) and (ii)

**Directions (35-36):** From a group of 5 ministers A, B, C, D, E and 4 officers L, M, N, O a team of 5 member is chosen under the following conditions.

- (i) C cannot go with O  
 (ii) A and D have to be together  
 (iii) D cannot go with L  
 (iv) C and M have to be together  
 (v) B and N have to be together  
 (vi) B cannot go with E
35. If the team consists of 3 officers, then the members of the team are:  
 (a) LMNBC (b) MNOAD  
 (c) LMNBD (d) LMOAE
36. If D is a member of the team and the team consists of 4 ministers then the other members of the team are:  
 (a) ABCM (b) ACEN  
 (c) ACEM (d) None of the above
- Directions (37-41):** There is a certain relationship between the two words on the left hand side of the sign: which of the given alternatives is related to the third word in the same way as the second word is related to the first word?
37. Potato : stem :: turnip : ?  
 (a) flower (b) vegetable  
 (c) root (d) none of the above
38. Element : Argon :: Compound : ?  
 (a) copper (b) water  
 (c) hydrogen (d) neon
39. Resistance : Ohm :: Potential : ?  
 (a) ampere (b) joule  
 (c) volt (d) watt
40. Hostel : Warden :: Museum : ?  
 (a) archaeologist (b) conductor  
 (c) curator (d) servant
41. Cat : Kitten :: Lion : ?  
 (a) cub (b) calf  
 (c) pony (d) lamb
42. In a correctly worked out multiplication problem below, each letter represents a different digit. What is the value of X?
- $$\begin{array}{r} X \ 2 \ Y \\ (\times) \ Y \\ \hline 2 \ 1 \ 2 \ Y \end{array}$$
- (a) 3 (b) 4  
 (c) 5 (d) 6
43. In a certain language, if BHUBANESWAR is coded as CIVCBOFTXBS how is CUTTACK coded?

- (a) DWXXBDI (b) DUUVBDL  
 (c) DVUUBDL (d) BVUUBDL

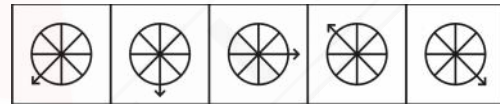
**Directions (44-46):** Refer to the figure below and answer the questions that follow:



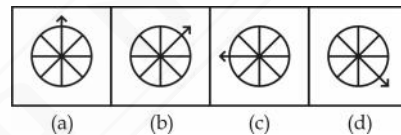
44. How many triangles are there in the given figure?  
 (a) 12 (b) 16  
 (c) 20 (d) 32
45. How many squares are there in the given figure?  
 (a) 6 (b) 8  
 (c) 10 (d) 12
46. Determine the number of straight lines in the figure?  
 (a) 10 (b) 12  
 (c) 14 (d) 16

**Directions (47-50):** In each of the questions given below which one of the four answer figures should come.

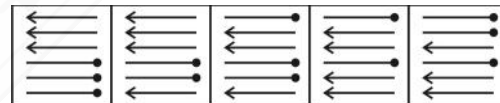
47. Problem figures



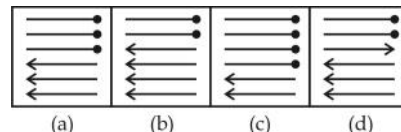
Answer figures



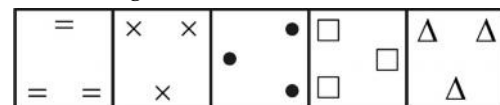
48. Problem figures



Answer figures

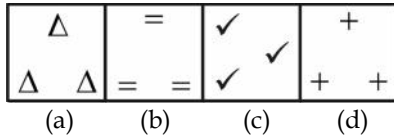


49. Problem figures

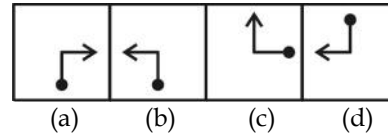




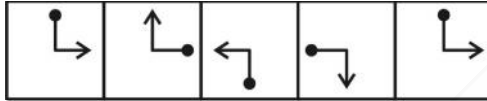
Answer figures



Answer figures



50. Problem figures



## ANSWER KEYS

1. (a) 2. (b) 3. (d) 4. (b) 5. (a) 6. (b) 7. (d) 8. (b) 9. (d) 10. (d) 11. (a) 12. (a)  
 13. (c) 14. (b) 15. (c) 16. (c) 17. (c) 18. (d) 19. (c) 20. (b) 21. (d) 22. (b) 23. (a) 24. (d)  
 25. (a) 26. (b) 27. (b) 28. (d) 29. (d) 30. (a) 31. (b) 32. (a) 33. (a) 34. (c) 35. (a) 36. (c)  
 37. (c) 38. (b) 39. (c) 40. (c) 41. (a) 42. (b) 43. (c) 44. (d) 45. (c) 46. (b) 47. (c) 48. (b)  
 49. (d) 50. (c)

## Explanation

1. (a) The figure in option (a) shows the actual Micror image of the problem figure.  
 2. (b) As per the Mirror concept, right sight of image converted to left. So option (b) is the correct image of the problem figure.  
 3. (d)  
 4. (b) By placing Mirror in place of RS, the figure converted to upside down.  
 5. (a)  
 6. (b)  $6 < \begin{matrix} 5 & 3 & 1 \\ 5 & 2 & 4 \end{matrix}$   
 7. (d) In the given figure  $1 \leftrightarrow 5, 2 \leftrightarrow 4, 3 \leftrightarrow 6$   
 So, that opposite of 3 is 6  
 8. (b) In this cube  $n^3 = 27$   
 So, that  $n = 3$   
 Only face printed =  $6(n-2)^3$   
 $= 6(3-2)^3$   
 $= 6$   
 9. (d) In this cube  $n^3 = 27$   
 So, that  $n = 3$   
 Only face printed =  $12(n-2)^3$   
 $= 12(3-2)^3$   
 $= 12$   
 10. (d) If we see the cube, only the corner cubes . i.e the 8 cubes at the corners of the original cube will have three faces painted. Hence the answer will be 8 only.  
 11. (a) Cube will cut into a  $(3 \times 3 \times 3)$   
 The cubes that are not painted will not be at the surface. Let's first count the cubes at the surface it will be 9 in the front and the back = 18 3 on each side remaining as the other 6 on each side are already taken into account.  
 1 on the top and the bottom as the rest have already been taken.  
 No. of painted cubes =  $19 + 6 + 2 = 26$   
 No. of cubes not painted =  $27 - 26 = 1$   
 So, the ans is option(a)  
 12. (a) Hear the relation of one semi circle ,triangle and square in each case.  
 13. (c)  
 14. (b) (1, 2, 4) - Combination of symbol  
 (2, 6, 8) - Combination of currency of countries  
 (5, 7, 9) - Combination of letters in the english alphabet.



## CHAPTER - 1

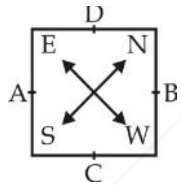
# DIRECTION SENSE TEST

1. 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
2. A boy starts from home in early morning and walks straight for 8 km facing the Sun. Then he takes a right turn and walks for 3 km. Then he turns right again and walks for 2 km and then turns left and walks for 1 km. Then turns right and walks for 1 km. Then he turns right and travels for 4 km straight. How far is he from the starting point?  
(a) 4 km (b) 5 km  
(c) 6 km (d) 2 km
3. Raj is standing in the middle of a square field. He starts walking diagonally to North- East. Then he turns right and reaches the far end of the field. Then he turns right and starts walking. In the midway he again turns right and starts walking. In halfway, he turns to his left and reaches a new far end. In what direction is Raj now ?  
(a) South- West (b) North  
(c) South (d) North - West
4. Four aeroplanes of Air force viz A, B, C, D, Started for a demonstration flight towards east. After flying 50 km planes A and D flew towards right, planes B and C flew towards, left. After 50 km, planes B and C flew towards their left, planes A and D also towards their left. In which directions are the aeroplanes A, B, D, C respectively flying now? .  
(a) North, South, East, West  
(b) South, North, West, East  
(c) East, West, East, West  
(d) West, East, West, East
5. Satish start from A and walks 2 km east up to B and turns southwards and walks 1 km up to C. At C he turns to east and walks 2 km up to D. He then turns northwards and walks 4km to E. How far is he from his starting point?  
(a) 5 km (b) 6 km  
(c) 3 km (d) 4 km
6. A boy walks northwards. After a while he turns towards his right and a little further to his left. Finally after walking a distance of one kilometre, he turns to his left again. In which direction he is moving now?  
(a) North (b) South  
(c) East (d) West
7. Sanmitra starts from his house and walks 3 km towards north. Then he turns right and walks 2 km and then turns right and walks 5km, then turns right and walks 2km and then again turns right and walks 2km. Which direction is he facing now?  
(a) North (b) South  
(c) West (d) East
8. Roshan walks a distance of 10 km towards North direction, then turns to his left and walks 20 km. He again turns left and walks 10 km and then he takes a right turn and walks 5 km. How much distant he is from his starting point?  
(a) 15 km (b) 25 km  
(c) 35 km (d) 40 km
9. Raju moved to his North-West side for 2 km. From there he turned 90° clockwise and moved 2 km. From there the turned 90° clockwise and travelled 2 km, then he would

be in which direction from the original position?

- (a) South - East Region
- (b) North - East Region
- (c) South- West Region
- (d) Western Region

10. In a square-shaped field, A, B, C, D persons are standing at the middle of each side. You have to bear in mind the directions to be followed as shown in the figure.



If A moves clockwise  $2\frac{1}{2}$  sides and D moves anti-clockwise  $2\frac{1}{2}$  sides, they will be in

- (a) South and West region
  - (b) North and East region
  - (c) South and North region
  - (d) North and West region
11. My friend and I started simultaneously towards each other from two places 100 m apart. After walking 30 m, my friend turns left and goes 10 m, then he turns right and goes 20 m and then turns right again and comes back to the road on which he had started walking. If we walk with the same speed, what is the distance between us at this point of time?
- (a) 50 m
  - (b) 20 m
  - (c) 30 m
  - (d) 40 m
12. One evening, Raja started to walk towards the Sun, After walking a while, he turned to his right and again to his right. After walking a while, he again turned right. In which direction is he facing?

- (a) South
- (b) East
- (c) West
- (d) North

13. A and B are standing at a distance of 20 km from each other on a straight East- West road. A and B start walking simultaneously eastwards and westwards respectively and both cover a distance of 5 km. Then A turns to his left and walks 10km. B turns to his right and walks 10 km at the same speed. Then, both turn to their left and cover a distance of 5 km at the same speed. What will be the distance between them?

- (a) 10 km
- (b) 30 km
- (c) 20 km
- (d) 25 km

14. Ganesh cycles towards South- west a distance of 8m, then he moves towards East a distance of 20 m. From there he moves towards North-East a distance of 8m, then he moves towards West a distance of 6m. From there he moves towards North-East a distance of 2 m. Then he moves towards West a distance of 4m and then towards South - West 2 m and stops at that point. How far is he from the starting point?

- (a) 12 m
- (b) 10m
- (c) 8m
- (d) 6m

15. City X is in the West of city Y, while city 'Z' is in the north of city 'Y' and city 'W' is in the South - East of 'Z', then what is the direction of city 'W' with respect to 'X' ?

- (a) North- East
- (b) East
- (c) South- East
- (d) Cannot say

16. A person starts walking in south and after walking 20 meters he took a left turn and walks 30 meter and finally took a right turn and stopped after walking 40 meters. Find the distance between his initial positions to final position?

- (a)  $20\sqrt{5}$
- (b)  $30\sqrt{5}$
- (c)  $40\sqrt{5}$
- (d)  $50\sqrt{5}$

## ANSWER KEYS

1. (d) 2. (b) 3. (d) 4. (c) 5. (a) 6. (d) 7. (a) 8. (b) 9. (b) 10. (c) 11. (b) 12. (a)  
13. (a) 14. (b) 15. (d) 16. (b)

