ALLEN ™ **NATIONAL TALENT SEARCH EXAMINATION (NTSE-2017) STAGE -1**
CAREER INSTITUTE
KOTA (RAJASTHAN) *Path to success*
GUJARAT STATE : MAT

Date: 06/11/2016

Max. Marks: 50 **SOLUTIONS** **Time allowed: 45 mins**

In each of the following questions, a number series is given with one of the term missing. Choose the correct alternative that will. Continue the same pattern and replace the question mark (?) in the given series (Q-1 to 10)

1. 21, 23, 27, 33, ___?___

(A) 37 (B) 41 (C) 43 (D) 49

Ans. *(B)*

Sol. Difference between the terms is +2, +4, +6, +8

So answer is 41

2. 1, 6, 15, ___?___, 45, 16, 91

(A) 25 (B) 26 (C) 27 (D) 28

Ans. *(D)*

Sol. Difference between the terms is +5, +9, +13, +17

So answer is 28

3. 2, 6, 12, ___?___, 30

(A) 18 (B) 24 (C) 20 (D) 26

Ans. *(C)*

Sol. Difference between the terms is +4, +6, +8, +10

So answer is 20

4. 107, 97, 82, 62, ___?___

(A) 52 (B) 42 (C) 47 (D) 37

Ans. *(D)*

Sol. Difference between the terms is -10, -15, -20, -25

So answer is 37

5. 2, 1, 4, 3, 6, 5, 8, ___?___

(A) 9 (B) 10 (C) 7 (D) 8

Ans. *(C)*

Sol. This is a double series

First:- 2, 4, 6, 8 with difference of +2

Second:- 1, 3, 5 with difference +2

So answer is 7

6. 8, 3, 11, 14, 25, ___?___

(A) 50 (B) 39 (C) 29 (D) 11

Ans. *(B)*

Sol. 8+3=11

3+11=14

11+14= 25

14+25= 39

So answer is 39

7. 8, 16, 28, 44, ___?___

(A) 62   (B) 64   (C) 66   (D) 60

Ans. ***(B)***

Sol. Difference between the terms is +8, +12, +16, +20

So answer is 64

8. 2, 8, 18, 32, 50, ___?___

(A) 64   (B) 72   (C) 70   (D) 68

Ans. ***(B)***

Sol. Difference between the terms is +6, +10, +14, +18, +22

So answer is 72

9. 1, 3, 7, 15, 31, ___?___

(A) 37   (B) 36   (C) 73   (D) 63

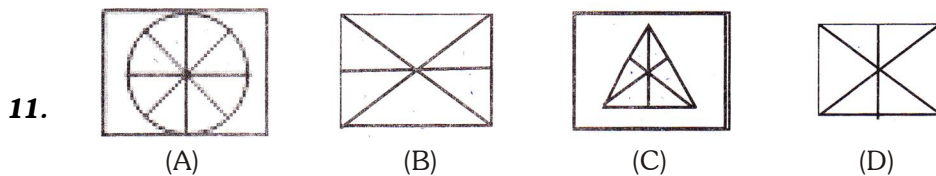***Ans.*** ***(D)***

Sol. Difference between the terms is +2, +4, +8, +16, +32

So answer is 63

10. 0, 3, 8, 15, 24, ___?___, 48

(A) 41   (B) 29   (C) 37   (D) 35
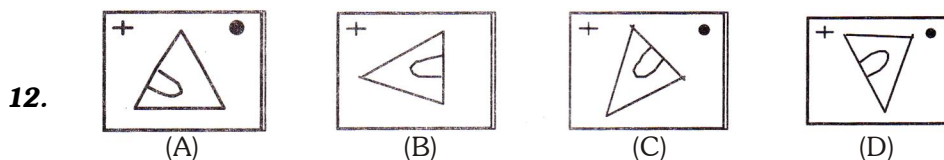
Ans. ***(D)***

Sol. Difference between the terms is +3, +5, +7, +9, +11

So answer is 35

In question No. 11 to 15, four figures are given in each. One of the figures differs from the rest.
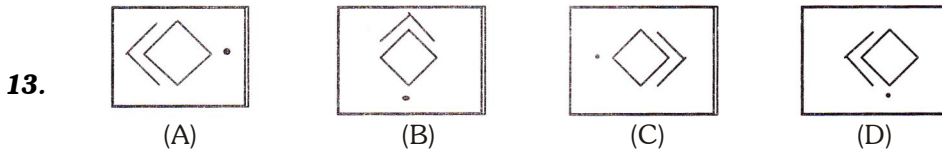
11.

(A)   (B)   (C)   (D)

Ans. ***(A)***

Sol. All figures are divided into 6 parts except first figure.

So answer is (A)

12.

(A)   (B)   (C)   (D)

Ans. ***(B)***

Sol. Circle is not present in the figure

So answer is (B)

13.

(A)   (B)   (C)   (D)

Ans. *(D)*

Sol. Dot is diagonally opposite to arrow.

So answer is (D)

14.

(A)   (B)   (C)   (D)
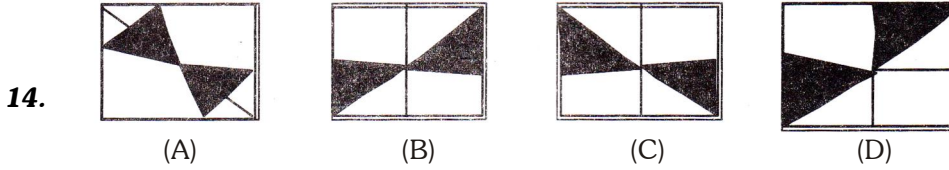
Ans. *(D)*

Sol. Triangles are vertically opposite to each other.

So answer is (D)

15.

(A)   (B)   (C)   (D)
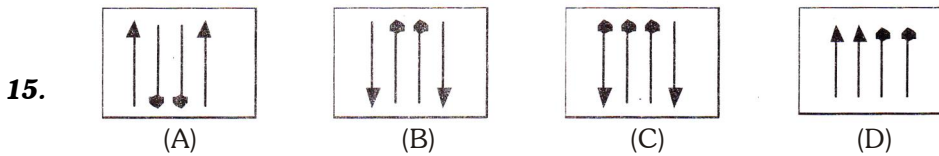
Ans. *(C)*

Sol. First line segment of option C have figures at both ends

So answer is (C)

In question No. 16 to 20, figures are given with question mark (?). Complete the figure replacing question mark (?) with suitable number logically.
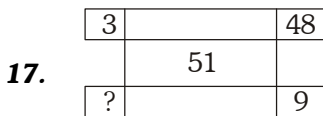
16.

(A) 13   (B) 15   (C) 17   (D) 19
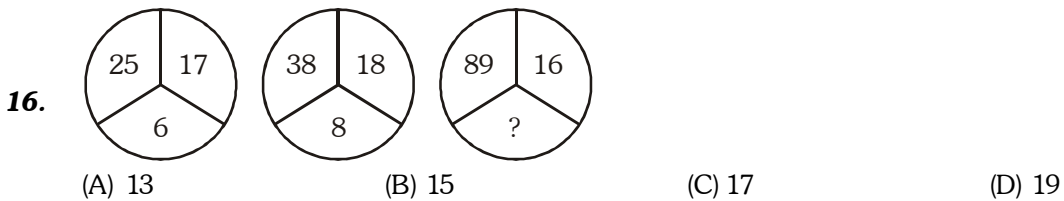
Ans. *(B)*

Sol. $\dfrac{25+17}{7}=6$

$\dfrac{35+18}{7}=8$

$\dfrac{89+16}{7}=105$

17.

(A) 25   (B) 20   (C) 32   (D) 42

Ans. *(D)*
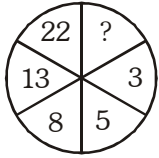
Sol. $3+48 = 51$

$x+9 = 51$

$x = 51-9$

$x = 42$

18.

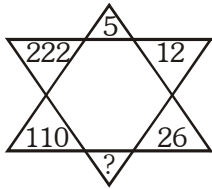(A) 1   (B) 26   (C) 39   (D) 45

Ans. *(C)*

Sol. $3 \times 2 - 1 = 5$

$5 \times 2 - 2 = 8$

$8 \times 2 - 3 = 13$

$13 \times 2 - 4 = 22$

$22 \times 2 - 5 = 39$

19.

(A) 54   (B) 51   (C) 48   (D) 44

Ans. *(A)*

Sol. $5 \times 2 + 2 = 12$

$12 \times 2 + 2 = 26$

$26 \times 2 + 2 = 54$

$54 \times 2 + 2 = 110$

$110 \times 2 + 2 = 222$

20.

4	3	2
6	9	5
9	27	?

(A) 30   (B) 20   (C) 50   (D) 54

Ans. *(A)*

Sol. Solving, middle and first column as,

$\dfrac{6 \times \mathbf{6}}{4} = 9$ and $\dfrac{9 \times \mathbf{9}}{3} = 27$

Therefore, $\dfrac{5 \times \mathbf{12}}{2} = 30$

$6 + 3 = 9$

$6 + 3 = 12$

In question No.21 to 25, English alphabets are given digital numbers. Using them find the correct code (number) for other English words from options given below

21. If CUP = 40 then KITE = ___?___

    (A) 10   (B) 20   (C) 30   (D) 45

Ans. *(D)*

Sol.

adding place value of all the alphabets we get,

$3 + 21 + 16 = 40$

$11 + 9 + 20 + 5 = 45$

So, Answer is 45.

22. If ZEBRA = 2652181 then LION = ___?___

    (A) 1291514   (B) 50   (C) 9112514   (D) 2591541

Ans. *(A)*

Sol. Replacing Place value of all the alphabets in ZEBRA i.e 26 5 2 18 1

Similarly, LION=12 9 15 14

23. If BAG = 71 then VICE = ___?___

    (A) 69   (B) 70   (C) 75   (D) 90

Ans. *(A)*

Sol. Reversing the place value and adding it, we get BAG = 25 + 26 + 20 = 71

Similarly, VICE = 5 + 18 + 24 + 22 = 69

24. If RAJU = 11-12-13-14 and JUNK = 13-14-10-9 then RANK = ___?___

    (A) 9-10-11-12   (B) 10-11-12-9   (C) 11-12-10-9   (D) 12-11-10-9

Ans. *(C)*

Sol. Direct substituting value of RANK from RAJU and JUNK i.e., R=11, A=12, N=10 and K=9 from the given sequence. We get 11 - 12 - 10 - 9

25. If WORK = 4-12-9-16 then WOMAN = ___?___

    (A) 4-12-14-26-13   (B) 4-26-14-13-12   (C) 23-12-26-14-13   {D} 23-15-13-1-14

Ans. *(A)*

Sol. Reversing the place value of WORK, i.e., 4 12 9 16.

Similarly WOMAN = 4 – 12 – 14 – 26 – 13

In question No.26 to 30, if order of English aiphabet is changed, code language is changed, then choose their option from the given option.

26. If TNELLECXE written instead of EXCELLENT then what is written for MARKET ?

    (A) TERKAM   (B) TEMARK   (C) TEKRAM   (D) TEKRMA

Ans. *(C)*

Sol. Reversing the order of MARKET, we get, TEKRAM.

27. If PQRS is written as KJIH, then EFGH is written as _____

    (A) VUTS   (B) STUV   (C) SUTV   (D) WVUT

Ans. *(A)*

Sol. Writing opposites of EFGH, we get, VUTS.

28. If WXYZ=DCBA then COME = ?

(A) XKNV   (B) XLNV   (C) LNVX   (D) LXNU

Ans. *(B)*

Sol. Writing opposites of COME, we get, XLNV.

29. If CARING=EDVGKC and SHARE=UKEPBO then CASKET = ?

(A) EDXIBP   (B) EDWIAP   (C) EDWPAI   (D) EDWIBP

Ans. *(D)*

Sol. Following the rule, C+2 = E, A + 3 = D, R + 4 = V, I - 2 = G, N – 3 = K, G – 4 = C.

Similarly, C+2 = E, A + 3 =D, S + 4 = W, K – 2 = I, E - 3 = B, T – 4 = P.
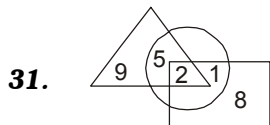
Ans. EDWIBP

30. If PICTURE=QHDSVQF then BROWSER = ?

(A) CQVVTDS   (B) CQPVTDS   (C) CQPUTDS   (D) CQVPPDS

Ans. *(B)*

Sol. Following the rule, +1, –1, +1, –1, +1, –1, +1 in each alphabet, we get, CQPVTDS

31.

Study the digram and find out the number, that lies inside all the figures.

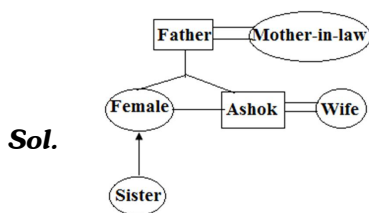(A) 2   (B) 5   (C) 9   (D) 1

Ans. *(A)*

Sol. By observation 2

32. Pointing at photo of female, Ashok said "Her father's wife is my wife's mother in law. What is the relation of Ashok with that female in photo ?

(A) Sister   (B) Wife   (C) Mother   (D) Daughter

Ans. *(A)*

Sol.

33. As relation of square with perimeter, what is the relation of circle from following in the same manner ?

(A) Area   (B) Volume   (C) Circumference   (D) Side

Ans. *(C)*

Sol. Circumference

34. 42341122341224433534112 3

In the above series, how many 3's are there such that 4 comes after 3 and 2 comes before 3 ?

(A) 4   (B) 3   (C) 2   (D) 1

Ans. *(C)*

Sol. By observation 2.

So, answer is option (C).

35. a-curd, b-milk, c-butter-milk, d-butter, are given. From above milk products, what order is logically correct from following option given ?

(A) bacd   (B) abcd   (C) dcba   (D) acbd

Ans. ***(A)***

Sol. b - milk; a - curd; c - butter milk; d - butter.

So, Answer is bacd.

36. Shoes : cobbler :: Food-grains : _____

(A) Trader   (B) Farmer   (C) Factory   (D) Scientist

Ans. ***(B)***

Sol. Farmer

37. On 26-January-1947 is Tuesday, then which day on 2-september-1947 ?

(A) Tuesday   (B) Wednesday   (C) Thursday   (D) Saturday

Ans. ***(C)***

Sol. Counting number of days from 26 January, 1947 to 2 September, 1947

5 + 28 + 31 + 30 + 31 + 30 + 31 + 31 + 2 = 219.

Dividing 219 by 7 to get number of odd days.

$$\frac{219}{7} = 31\,\text{weeks} + 2\,\text{odd days}$$

Given date is after reference date, so, adding 2 in Tuesday, we get, Thursday.

38. What is the angle between hour hand and minute hand in the clock shows time 8:25.

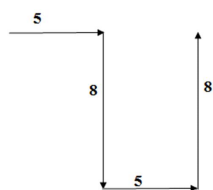(A) 90°   (B) 102.5°   (C) 77.5°   (D) 12.5°

Ans. ***(B)***

Sol. $\theta = |\frac{11}{2}m \pm 30h|$

$= |\frac{11}{2} \times 25 \pm 30 \times 8|$

$= |\frac{275}{2} \pm 240|$

$= |137.5 \pm 240|$

$= 337.5$ or 102.5

39. Maulik 5 km in east direction, then he turns right and walks 8 km, again he turns left and walks 5 km, then he turns rest and walks 8 km. Now, how much would he for his origin ?

(A) 10 km   (B) 18 km   (C) 31 km   (D) 13 km
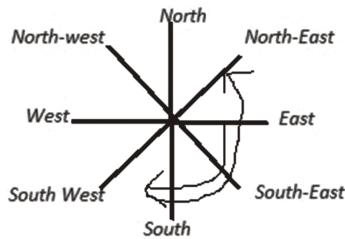
Ans. ***(A)***

Sol.   5 + 5 = 10 km

40. If is stand by keeping mouth in east direction and turn 100° clockwise and then turn agin 145° anticlockwise, then in which direction which keeping my mouth will I stand ?

(A) North-East   (B) South-East   (C) North-West   (D) West

Ans. *(A)*

Sol.

41. In a line of 200 players, Kartikey's sequence is 18th from left side, then what is his sequence order from right side ?

(A) 182   (B) 183   (C) 184   (D) 218

Ans. *(B*

Sol. 200 - 18 + 1 = 183 from right.

In question No.42,43 and 44 one word differs from the rest. Which one Is that ?

42. (A) Kilometer   (B) Centimeter   (C) Liter   (D) Light year

Ans. *(C)*

Sol. liter (measuring unit for volume)

43. (A) Milk   (B) Ghee   (C) Butter   (D) Oil

Ans. *(D)*

Sol. oil (rest all milk products)

44. (A) Ahmedabad   (B) Gandhinagar   (C) Newyork   (D) Mumbai

Ans. *(C)*

Sol. New York (Rest all are Indian cities)

45. There is a relation between India and Delhi. Which of the following words has the same type of relation with U.S.A.?

(A) Mumbai   (B) Washington   (C) New York   (D) Stanford

Ans. *(B)*

Sol. Washington (Capital of USA)

46. If x in stead of +, ÷ in stead of ×, – in stead of ÷, and + in stead of – are considered, then what is the answer of following fay syrnlifying ? 18 – (24 × 3) ÷ 8

(A) 18   (B) 16   (C) 15   (D) 12

Ans. *(A)*

Sol. Replacing + with ×; × with ÷ ; ÷ with – ; – with +

$18 + (24 \div 3) - 8$

$18 + 8 - 8$

$26 - 8$

18

47. 30% of 30% of a number is 9, what is that number ?

(A) 200   (B) 100   (C) 300   (D) 18

Ans. *(B)*

Sol. $\dfrac{30}{100} \times \dfrac{30}{100} \times x = 9$

$\dfrac{9x}{100} = 9$

$x = 100$

48. 2 mangoes = 6 apple, 2 apple - 8 bananas, so instead of buying 1 mango, how many bananas are available ?

(A) 12   (B) 24   (C) 6   (D) 8

Ans. *(A)*

Sol. Given, 2M = 6A; 2A = 8B.

Solving above, we get, M=3A and A=4B.

Therefore, M=3A and 3A=12B.

Hence, we get 12 Bananas.

49. What would be measure of angle between hour hand and minute hand, when clock shows time 12 o'clock ?

(A) 180°   (B) 0°   (C) 90°   (D) 45°

Ans. *(B)*

Sol. At 12'o clock, both hands coincide each other.

Therefore, angle between hands is 0°.

50. A man passes road of 250 meter broad in 75 second. What is the speed of man in Km/hour ?

(A) 10   (B) 12   (C) 12.5   (D) 15

Ans. *(B)*

Sol. $\text{Speed} = \dfrac{\text{Dis} \tan \text{ce}}{\text{Time}} = \dfrac{250}{1000} \times \dfrac{3600}{75} = 12$