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NATIONAL TALENT SEARCH EXAMINATION (NTSE-2018) STAGE -1
'GUJARAT' STATE   PAPER : MAT

Date: 05/11/2017

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

Instruction: In each of the following question no. 1 to 10, a number series is given with missing of one term. Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series.

1.   12, 24, 37, 51, 66, ?
   (A) 72   (B) 82   (C) 84   (D) 74
Ans. (B)
Sol. $12+12=24, 24+13=37, 37+14=51, 51+15=66, 66+16=82$.

2.   4, 9, 20, 43, ?
   (A) 90   (B) 54   (C) 66   (D) 80
Ans. (A)
Sol. $4 \times 2 + 1 = 9, 9 \times 2 + 2 = 20, 20 \times 2 + 3=43, 43 \times 2+ 4=90$

3.   6, 215, 7, 342, 8, ?
   (A) 512   (B) 216   (C) 343   (D) 511
Ans. (D)
Sol. $6^3 – 1 = 215, 7^3 – 1= 342, 8^3 – 1= 511$

4.   28, 33, 40, 51, 64, ?
   (A) 512   (B) 216   (C) 343   (D) 511
Ans. (C)
Sol. $28 + 5 = 33, 33 + 7 = 40, 40 + 11 = 51, 51 + 13 = 64, 64 + 17 = 81$

5.   200, 64, 100, 32, 50, 16, ?
   (A) 25   (B) 35   (C) 8   (D) 45
Ans. (A)
Sol. Divide alternate terms by 2

6.   122, 170, 226, 290, ?
   (A) 289   (B) 362   (C) 290   (D) 325
Ans. (B)
Sol.

7.   730, 511, 344, 215, ?
   (A) 125   (B) 25   (C) 36   (D) 126
Ans. (D)
Sol. $9^3 + 1, 8^3 – 1, 7^3 + 1, 6^3 – 1, 5^3 + 1$

8. 2.5, 5, 7.5, ?, 12.5

(A) 10   (B) 22.5   (C) 100   (D) 150

Ans. (A)

Sol. Add 2.5 in previous term to get next term.

9. 1, 2, 6, 21, ?

(A) 89   (B) 84   (C) 440   (D) 445

Ans. (NA)

Sol. No correct option

10. 10, 17, 26, ?, 50, 65

(A) 37   (B) 47   (C) 33   (D) 31

Ans. (A)

Sol. $10 + 7 = 17, 17 + 9 = 26, 26 + 11 = 37, 37 + 13 = 50, 50 + 15 = 65$

Instruction: Four figures are given in question no. 11 to 15. One of the figure differs from the rest. Find the figure which is differ from others.
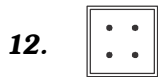
11.

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

Ans. (A or B)

Sol. E is vowel and others options are consonants (option A).

A, C, D option figures are made up of 4 line segments, while B is of 2 line segments.

So (B) is also the answer

12.

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

Ans. (C)

Sol. In option C there are 3 dots i.e. odd number.

While option A, B, D have even number of dots.

13.

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

Ans. (D)

Sol. Number of 'L' and "dots" are same

14.

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

Ans. (D)

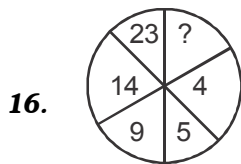*Sol.* USB Pen drive is only a storage device.

15.

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

Ans. (B)

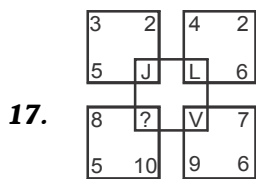*Sol.* Option (B) Circle has no sides.

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

16.

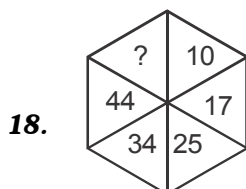(A) 27   (B) 37   (C) 25   (D) 9

Ans. (B)

Sol. $4 + 5 = 9$, $9 + 5 = 14$, $9 + 14 = 23$, $14 + 23 = 37$.

17.

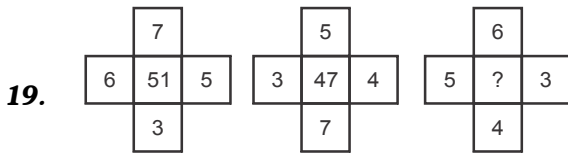(A) W   (B) X   (C) Y   (D) Z

Ans. (A)

Sol. $3 + 2 + 5 = 10$ (place value of J)

$4 + 2 + 6 = 12$ (place value of L)

$9 + 6 + 7 = 22$ (place value of V)

$8 + 5 + 10 = 23$ (place value of W)

18.

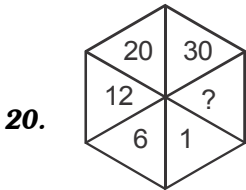(A) 50   (B) 55   (C) 52   (D) 65

Ans. (B)

Sol. $10 + 7 = 17$, $17 + 8 = 25$, $25 + 9 = 34$, $34 + 10 = 44$, $44 + 11 = 55$.

19.

	7				5				6	
6	51	5		3	47	4		5	?	3
	3				7				4	

(A) 43   (B) 49   (C) 39   (D) 45

Ans. (C)

Sol. $7 \times 3 + 6 \times 5 = 51$, $5 \times 7 + 3 \times 4 = 47$, $6 \times 4 + 5 \times 3 = 39$.

20.

20	30
12	?
6	1

(A) 42   (B) 45   (C) 52   (D) 32

Ans. (NA)

Sol. Question is incorrect

Instruction : In question no.21 to 25, English alphabets are given digital number/code. Using them, find the correct digital number/code for given English word by chossing the correct option given below.

21. If GOOD = 715154 then NEWS = ?

(A) 1452391   (B) 1425391   (C) 1425913   (D) 1452319

Ans. (D)

Sol. Place values of alphabets.

G = 7, O = 15, D = 4,

So N = 14, E = 5, W = 23, S = 19, NEWS = 1452319

22. If GOAT = 43 then COW = _____.

(A) 40   (B) 41   (C) 51   (D) 50

Ans. (B)

Sum of place value alphabets

Sol. G + O + A + T = 7 + 15 + 1 + 20 = 43,

C + O + W = 3 + 15 + 23 = 41

23. If CAMEL = XZNVO then BUAL = ?

(A) YPQYO   (B) YRPQO   (C) YRQZO   (D) YRZPO

Ans. (C)

Sol. C(3rd from start)=X(3rd from last)

A(1st from start)=Z(1st from last)

M(13th from start)=N(13th from last)

E(5th from start)=V(5th from last)

L(12th from start)=O(12th from last)

So BIJAL=YRQZO

24. If WINDOW = 987659 and TREE = 3422 then WINTER = ?

(A) 987342　　　　(B) 987432　　　　(C) 987423　　　　(D) 987324

Ans. (D)

Sol. W = 9, I = 8, N = 7, T = 3, E = 2, R = 4.

25. If MANU = 13 - 1 - 14 -10 - 21 then RITJU = ?

(A) 17 - 9 - 19 - 10 - 21　　(B) 18 - 9 - 19 -10 -21　　(C) 18 - 9 - 20 - 10 - 21　　(D) 17 - 9 - 20 - 10 - 21

Ans. (C)

Sol. Place values of alphabets

RITJU = 18 – 9 – 20 – 10 – 21

Instruction : According to the question, chosse the correct option in question no. 26 to 50.

26. Find the correct co-related word, centimetre : metre :: ? : ?

(A) Wall : House　　(B) Killometre : Foot　　(C) Kilogram : Foot　　(D) Millilitre : Litre

Ans. (D)

Sol. centimetre and metre are units of length. In same way millilitre and litre are units of volume.

27. Find the correct co-related number, 5 : 36 :: ?

(A) 48　　　　(B) 50　　　　(C) 49　　　　(D) 56

Ans. (NA)

Sol. Question is incomplete

28. Find the correct co-related character : E : V :: I : ?

(A) Q　　　　(B) R　　　　(C) S　　　　(D) T

Ans. (B)

Sol. E(5th from start) = V(5th from last)

I(9th from start) = R(9th from last)

29. If + means ×, – means ÷, × means +, and ÷ means – are considered then find the value of $10 \times 18 - 9 + 3 + 1$

(A) 15　　　　(B) 20　　　　(C) 168　　　　(D) 180

Ans. (A)

Sol. After changing the signs equations becomes $10 + 18 \div 9 \times 3 - 1 = 15$

30. If + means ×, – means +, × means –, and ÷ means – are considered then find the value of $(8 - 6) + (7 \times 4) \div 4$

(A) 46　　　　(B) 42　　　　(C) – 38　　　　(D) 38

Ans. (D)

Sol. After changing the signs equation becomes $(8 + 6) \times (7 - 4) - 4 = 38$

31. Which of the four option given below shows the correct sequence of the given words ?

(1) service (job)　　(2) Examination　　(3) Learning　　(4) Admission　　(5) Result

(A) 1,4,2,3,5　　(B) 4,3,2,5,1　　(C) 5,4,3,2,1　　(D) 2,3,5,1,4

Ans. (B)

Sol. Correct order is admission, learning, examination, result, service (job)

32. Show the correct sequence of the given four option in ascending order.

(1) Prime minister   (2) Chief Minister   (3) Mayor   (4) President   (5) Sarpanch

(A) 5,3,2,4,1   (B) 5,2,3,4,1   (C) 5,3,2,1,4   (D) 5,3,2,1,4

Ans. (C and D)

Sol. Both options are correct.

Correct order is sarpanch, mayor, chief minister, prime minister, president

33. What will come in place of question mark (?)

If 3 * 6 = 18, 4 * 7 = 22 and 9 * 1 = 20 then 5 * 2 = ?

(A) 14   (B) 7   (C) 10   (D) 3

Ans. (A)

Sol. $(3 + 6) \times 2 = 18$, $(4 + 7) \times 2 = 22$, $(9 + 1) \times 2 = 20$, $(5 + 2) \times 2 = 14$,

34. If $4 \times 5 = 1625$, $3 \times 8 = 964$, $2 \times 6 = 436$ then $1 \times 9 = ?$

(A) 36   (B) 150   (C) 181   (D) 218

Ans. (C)

Sol. $1625 = 4^2 5^2$, $964 = 3^2 8^2$, $436 = 2^2 6^2$, $181 = 1^2 9^2$

35. What was the day before yesterday if Thursday was the day after tomorrow?

(A) Saturday   (B) Sunday   (C) Monday   (D) Firday

Ans. (B)

Sol. Day after tomorrow will Thursday.

So, Today is Tuesday and day before yesterday was Sunday.

36. On 14th January 2014 is Saturday, then which day on 15th August 2014 ?

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

Ans. (A)

Sol. Total no of days after 14th January, 2014 to 15th August, 2014 is 17 + 28 + 31 + 30 + 31 + 30 + 31 + 15 = 213

Now, 213 ÷ 7 gives remainder 3 (odd days). So, day will be Tuesday.

37. A statement and four predictions are given in the following question. Find a fair prediction. Some leaders like Nagesh are corrupt.

(A) Nagesh is not corrupt.   (B) Leaders are corrupt.

(C) Some times Nagesh is not corrupt.   (D) Some leaders are corrupt.

Ans. (D)

Sol. Some leaders are corrupt.

38. Among M, T, R and P, M is older then only P, T is older than R. Then who is older to all ?

(A) T   (B) R   (C) T or R   (D) Incomplete Information

Ans. (A)

Sol. P < M, R < T so correct order is P < M < R < T.

39. Amrita is older than Namrata. Namrata is younger than Anjali. Who is oldest of all ?

(A) Anjali   (B) Amrita   (C) Gitanjali   (D) Namrata
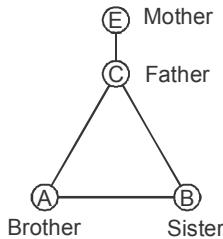
Ans. NA

Sol. Incomplete question

40. 'A' and 'B' are brother and sister. Their father is 'C'. 'D' is sister of 'A'. 'E' is mother of 'C' & 'D'. Then what will be 'B' of 'E' ?

(A) Grand daughter   (B) Great grand child (daughter)

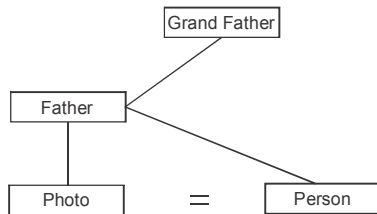(C) Aunt   (D) Wife

Ans. (A)

Sol.

41. A person was watching a photo. He said : 'I had neither brother nor sister but this person's father is the only son of my grand father'. Then whose photo was that person was watching ?

(A) His son   (B) His father   (C) Himself   (D) His Uncle

Ans. (C)
Sol.

42. Suresh and Mahesh were in opposite direction of each other in the evening on the Gujarat University ground. The shadow'of Mahesh appears on his right side. Then in which direction Suresh's mouth will be ?

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

Ans. (B)

Sol. If Mahesh's shadow appears on his right, then Mahesh is facing North, and Suresh is opposite of Mahesh so Suresh is facing South.

43. Manish's number is 14th from right side in queue of 40 students. Then from the left side at which number will his place be ?

(A) 27th (B) 28th (C) 29th (D) 30th

Ans. (A)

Sol. Number of students from left side including manish will be 27.

44. 'Turn back – see front". How many degree angle will be formed by a man in this situation ?

(A) 90°   (B) 180°   (C) 60°   (D) 270°

Ans. (B)

Sol. On turning back man will makes an angle of 180°.

45. Which number is wrong in following series ? 41, 41, 42, 44, 48, 51, 56

(A) 48   (B) 51   (C) 56   (D) 41

Ans. (A)

Sol. 41 + 0 = 41, 41 + 1 = 42, 42 + 2 = 44, 44 + 3 = 47.

So 48 is wrong term

46. 64314531214317431 2931

In the above series, how many 3's are there such that 1 comes after and 4 comes before ?

(A) 5   (B) 4   (C) 3   (D) 2

Ans. (C)

Sol. 6**431**45312 1**431**7**431**2931

47. Which word can be made with the characters of the given words. "INTERNATIONAL"

(A) ANNUAL   (B) LAMINATION   (C) TERMINATE   (D) INTERNAL

Ans. (D)

Sol. All the alphabets of INTERNAL are present in INTERNATIONAL.

48. In the following options three are similar group but one is different from them. Find that different option.

(A) 24 - 36   (B) 44 - 56   (C) 39 - 45   (D) 66 - 78

Ans. (C)

Sol. 24 - 36 (difference of 12)

44 - 56 (difference of 12)

39 - 45 (difference of 6)

66 - 70 (difference of 12)

49. In the following options three are similar group but one is different from them. Find that different option.

(A) QRS   (B) XYZ   (C) STU   (D) MLN
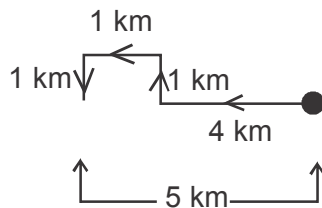
Ans. (D)

Sol. QRS, XYZ, STU are group of consecutive letters but MLN are not.

50. Richa walks 4 km in the direction of sun on sunset time. Then she turns a right and walks 1 km. She turns left and walks 1 km then she turns left and walks 1 km. Now how many km would she away from her origin ?

(A) 3   (B) 4   (C) 5   (D) 6

Ans. (C)

Sol.

Richa is 5 km away from her origin.