

# FIITJEE INTERNAL TEST

Batch: NWCMLG425A1

PHASE - III

## Mental Ability Test (MAT)

QP CODE: 100866

Time: 1:30 Hrs.

Maximum Marks: 90

Please read the instructions carefully.

### INSTRUCTIONS

#### A: General :

1. Immediately fill in the particulars on this page of the Test Booklet with Blue/Black Ball point pen.
2. Use **Blue/Black Ball Point Pen only** for writing particulars on **Side-1** and **Side-2** of the Answer Sheet. **Use of pencil is strictly prohibited.**
3. Darken the appropriate bubbles with **Blue/Black Ball Point Pen** only.
4. Blank papers, clipboards, log tables, slide rules, calculators, cellular phones, pagers and electronic gadgets in any form are not allowed.
5. The answer sheet, a machine-gradable Objective Response Sheet (ORS) is provided separately.
6. Do not Tamper/mutilate the **ORS** or this booklet.
7. No additional sheets will be provided for rough work
8. On completion of this test, the candidate must hand over the Answer Sheet to the Invigilator on duty in the Room/Hall. **However, the candidates are allowed to take away this Test Booklet with them.**

#### B: Questions paper format and Marking Scheme :

1. The question paper consists of 90 questions.
2. For each question you will be **awarded 1 marks** if you darken the bubble corresponding to the correct answer and zero mark if no bubbles is darkened. **No Negative Mark will be awarded.**

Enrollment No. :

Batch : \_\_\_\_\_

Name : \_\_\_\_\_

Candidate's Signature \_\_\_\_\_ Invigilator's Signature: \_\_\_\_\_

**Directions (1 – 2):** Letters of the words given below have been jumbled up and you are required to construct the words. Each letter has been numbered and each word is followed by four options. Choose the option which gives the correct order of the letters as indicated by the numbers to form meaningful words

1.     A     L     I     R     E     M     C  
        1     2     3     4     5     6     7  
        (A) 6 3 4 1 7 2 5                   (B) 6 5 1 4 7 3 2  
        (C) 7 4 5 1 6 3 2                   (D) 7 5 4 1 6 2 3
2.     E     L     B     M     A     G  
        1     2     3     4     5     6  
        (A) 2 1 6 3 5 4                   (B) 3 1 6 4 5 2  
        (C) 4 5 6 3 1 2                   (D) 6 5 4 3 2 1

**Directions (3 – 4):** In each of the following questions, arrange the words in a meaningful, logical order and then select the appropriate sequence from the alternatives given below each of the groups of words.

3.     1. Curd           2. Grass           3. Butter           4. Milk           5. Cow  
        (A) 5 2 4 1 3                   (B) 5 2 3 4 1  
        (C) 4 2 5 3 1                   (D) 2 5 4 1 3
4.     1. Income       2. Status       3. Education   4. Well – being   5. Job  
        (A) 1 3 2 5 4                   (B) 1 2 5 3 4  
        (C) 3 1 5 2 4                   (D) 3 5 1 4 2
5.     If 'FISH' is written as 'EHRG' in a certain code, then how would 'JUNGLE' be written in that same code?  
        (A) ITMFKD                   (B) ITNFKD  
        (C) KVOHMF                   (D) TIMFKD
6.     If 'GIRL' is written as 'FJSK' in a certain code, then how would 'BOY' be written in that same code?  
        (A) CPX                   (B) APX  
        (C) APZ                   (D) CPZ

**Directions (7 – 9):** Consider the letters of the alphabet written in the order from left to right i.e., from A to Z.

7.     The letter which is fourth to the left of the letter, which is fifth to the right of F is  
        (A) C                   (B) W  
        (C) E                   (D) G

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*Space For Rough Work*

8. The letter which is 6<sup>th</sup> to the left of the letter which is 8<sup>th</sup> to the right of P is  
 (A) E (B) D  
 (C) S (D) R
9. The letter which is third to the right of the letter, which is seventh to the left of O is  
 (A) P (B) C  
 (C) K (D) L
10. In a certain code language, if the word 'PARTNER' is coded as OZQSMDQ, then what is the code for the word 'SEGMENT' in that language?  
 (A) TFHNFOU (B) RDFLDMS  
 (C) RDELDMS (D) RDFEDNS
11. In a certain code language, if the word 'RECTANGLE' is coded as TGEVCPING, then how is the word 'RHOMBUS' coded in that language?  
 (A) TJOQDWV (B) TJQNDWU  
 (C) TJQODWU (D) TJQOEWU
12. If 'knr lin hcn' stands for 'everything is fine'; 'nso ons lin' stands for 'there is something' and 'ksa nso wno' stands for 'Ask something now'; What would 'there' stand for?  
 (A) lin (B) nso  
 (C) ons (D) kse
13. In a certain code, 'they are fools' means 'plane is risky', 'we are wise' means 'train is fast' and 'wise never fools' means 'fast always risky'. Which of the following stands for 'train'?  
 (A) they (B) we  
 (C) never (D) fools
14. In a certain code language, if the word 'COMPANY' is coded as CODPANG, then how will the word 'COUNTRY' be coded in that language?  
 (A) COUEBRG (B) COCNTIG  
 (C) COCNBRG (D) CFCNBRG

**Directions (15 – 18):** In each of the following questions, arrange the given words in the sequence in which they occur in the dictionary and then choose the correct sequence.

15. 1. Page 2. Pagan 3. Palisade 4. Pageant 5. Palate  
 (A) 1, 4, 2, 3, 5 (B) 2, 4, 1, 3, 5  
 (C) 1, 4, 2, 5, 3 (D) 2, 1, 4, 5, 3

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16. 1. Select 2. Seldom 3. Send 4. Selfish 5. Seller  
(A) 1, 2, 4, 5, 3 (B) 2, 1, 5, 4, 3  
(C) 2, 1, 4, 5, 3 (D) 2, 5, 4, 1, 3
17. 1. Repoint 2. Reptile 3. Repent 4. Repute 5. Report  
(A) 3, 1, 5, 2, 4 (B) 3, 5, 1, 2, 4  
(C) 5, 1, 4, 3, 2 (D) 5, 4, 1, 3, 2
18. 1. Protein 2. Problem 3. Proverb 4. Property 5. Project  
(A) 1, 2, 3, 4, 5 (B) 2, 1, 4, 3, 5  
(C) 2, 5, 4, 1, 3 (D) 3, 4, 5, 2, 1

**Directions (19 – 21):** Each of the following questions is based on the following alphabet series:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

19. Which letter is exactly midway between G and Q in the given alphabet?  
(A) K (B) L  
(C) M (D) N
20. Which letter is midway between the eighteenth letter from the left end and tenth letter from the right end of the given alphabet?  
(A) No letter (B) K  
(C) Q (D) R
21. Which letter in the alphabet is as far from G as T is from M?  
(A) M (B) N  
(C) O (D) P

**Directions (22 – 28):** Select the correct alternative from the given choices:

22. 11 : 36 :: 23 : ?  
(A) 68 (B) 76  
(C) 84 (D) 72
23. ACDF : CGJN :: BEHI : ?  
(A) DJNQ (B) DINQ  
(C) DINR (D) DKMR
24. WST : TOO :: BTU : ?  
(A) PPY (B) XOQ  
(C) CTP (D) YPP

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*Space For Rough Work*

25. Socks : Feet :: \_\_\_\_\_ : Hands  
 (A) Arms (B) Shirt  
 (C) Gloves (D) Fingers
26. Earth : Planet :: Carrot : \_\_\_\_\_  
 (A) Vegetable (B) Plant  
 (C) Leaf (D) Stem
27. Pig : Piglet :: Dog : \_\_\_\_\_  
 (A) Cat (B) Tail  
 (C) Feline (D) Puppy
28. 2197 : 13 :: 729 : \_\_\_\_\_  
 (A) 11 (B) 12  
 (C) 9 (D) 17
29. If B is coded as 8, F is coded as 6, Q is coded as 4, D is coded as 7, T is coded as 2, M is coded as 3 and K is coded as 5, then what the coded form of QKTBFM?  
 (A) 425783 (B) 452863  
 (C) 452783 (D) 472683
30. In a certain code language, if the value of 'INVADER' = 42 AND 'SECURE' = 30, then what is the value of 'SITUATION' ?  
 (A) 81 (B) 90  
 (C) 63 (D) 72
31. In a certain code language, if the word 'SECTOR' is coded as 'CESROT' then how will you code the word 'OPPOSITION' ?  
 (A) SOPPONOITI (B) SOPOPNOITI  
 (C) SOPPONOTII (D) SOPPOITION
32. In a certain code language, if the value of 'CUSTOM' =22 and 'LABOUR' = 20, then what is the value of the word 'HISTORY' ?  
 (A) 42 (B) 49  
 (C) 46 (D) 48
33. If in a certain language, SHIFT is coded as RFFBO, which word would be coded as LKUMB?  
 (A) MMXQG (B) MLVNC  
 (C) KJVLA (D) MJVLC
34. In a certain code language, if the word 'FOUNDATION' is coded as OFNUADITNO, then how is the word 'INTERIOR' coded in that language?  
 (A) NEITRIRO (B) NIEITRRO  
 (C) NIETRIRO (D) NIETIRRO

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*Space For Rough Work*

**Directions (35 – 38):** In each of the following questions, a word has been given, followed by four other words. One of which can not be formed by using the letters from the given word. Find the word.

35. INTELLIGENCE  
 (A) TILLAGE (B) INCITE  
 (C) GENTLE (D) NEGLECT
36. SUPERVISION  
 (A) PISTON (B) NOISE  
 (C) PERSON (D) REVISION
37. AUTOGRAPHS  
 (A) GRAPH (B) TROUGH  
 (C) SPORT (D) GREAT
38. ENVIRONMENT  
 (A) EMINENT (B) ENTRANCE  
 (C) ENTERTAIN (D) MOVEMENT
39. If 'HAPPY' is written as 'IBQQZ' in a certain code, then how would 'SORROW' be written in that code?  
 (A) TPSSXX (B) TTPSSPX  
 (C) TPPSPX (D) None of these
40. If in a certain language, 'MADRAS' is codes as 'NBESBT', then how would 'BOMBAY' be coded in that same language?  
 (A) CPNCBX (B) CPNCBZ  
 (C) CPOCBZ (D) CQOCBZ
41. If in a certain language 'MIRACLE' is coded as 'NKUEHRL', then how 'GAMBLE' codes in that same language?  
 (A) JDOCMF (B) CLEMNK  
 (C) HCPFQK (D) AELGMN
42. If in a certain code language, 'BROWSER' is written as 'RESWORB', then how 'TEACHER' coded in that same language?  
 (A) REHCEAT (B) REHCAET  
 (C) REHCTEA (D) AHRCTEA

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*Space For Rough Work*

43. If in a certain code language, 'FRIEND' is written as 'ETKDPF', then how 'REVEAL' be coded in that language?  
 (A) LAEVER (B) VERQLM  
 (C) QXGCDN (D) QGXDCN
44. In a certain code, 'BELIEF' is written as 'AFKKDH'. How would 'SELDOM' be written in that code?  
 (A) RDKCHL (B) RFKENM  
 (C) RFKFNO (D) TFKENP
45. In a certain code 'INSTITUTION' is written as 'NOITUTITSNI'. How would 'PERFECTIONS' be written in that code?  
 (A) SNOICTEREP (B) SNOITCEFERP  
 (C) SNOITCEFRPE (D) SNOITCEFREP
46. In a certain code 'MOUSE' is written as 'PRUQC'. How is 'SHIFT' written in that same code?  
 (A) VKIRD (B) VKIDR  
 (C) VJIDR (D) VIKRD
47. If 'ZEBRA' is written as '2652181', then how can 'COBRA' be written?  
 (A) 302181 (B) 3152181  
 (C) 31822151 (D) 1182153
48. If ZIP = 198 and ZAP = 138, then how will you code P?  
 (A) 1 (B) 3  
 (C) 8 (D) 9
49. Arrange the given words in the order they occur in dictionary.  
 1. SIGN  
 2. SOLID  
 3. SCENE  
 4. SIMPLE  
 (A) 3, 1, 2, 4 (B) 3, 1, 4, 2  
 (C) 3, 4, 1, 2 (D) 3, 4, 2, 1
50. Arrange the following group such that when arranged in a specific order, meaningful word is formed.  
 V A H Y E  
 1 2 3 4 5  
 (A) 2, 3, 4, 5, 1 (B) 3, 2, 5, 1, 4  
 (C) 3, 5, 2, 1, 4 (D) 1, 5, 2, 3, 4

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*Space For Rough Work*

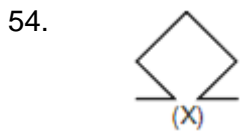
51. What should come next in the following letter series?  
 ABCDPQRSABCDEPQRSTABCDEFPPQRST?  
 (A) S (B) V  
 (C) U (D) W

**Directions (52 – 53):** Study the following arrangement carefully and answer the questions given below.

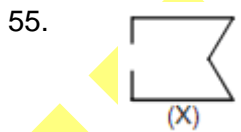
M % T A P 4 \* E D 1 7 N I J 5 \$ 3 F H 8 U B 6 @ W L 2 © K Q #

52. Which of the following is the ninth to the right to the twentieth from the right end of the above arrangement?  
 (A) T (B) 8  
 (C) U (D) N
53. If the last twelve elements in the above arrangement are written if the reverse order, which of the following will be the twenty fourth the left end?  
 (A) L (B) W  
 (C) © (D) None of these

**Directions (54 – 57):** In each of the following questions choose the alternative figure in which the question figure (X) is embedded.



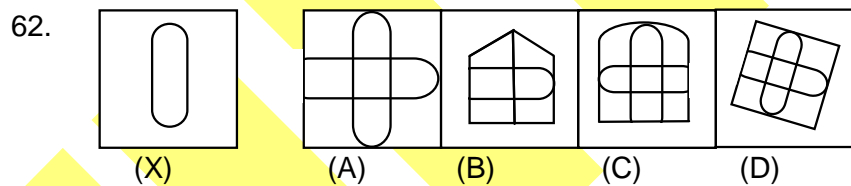
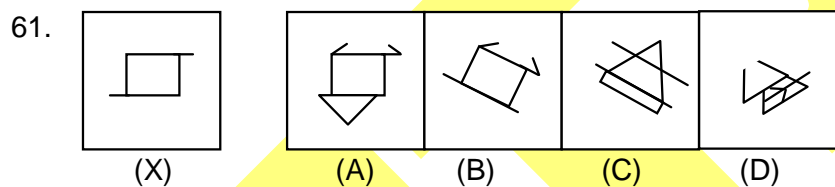
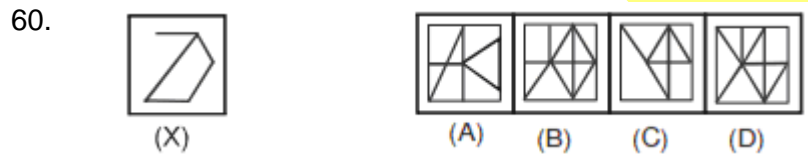
- (A)
- (B)
- (C)
- (D)



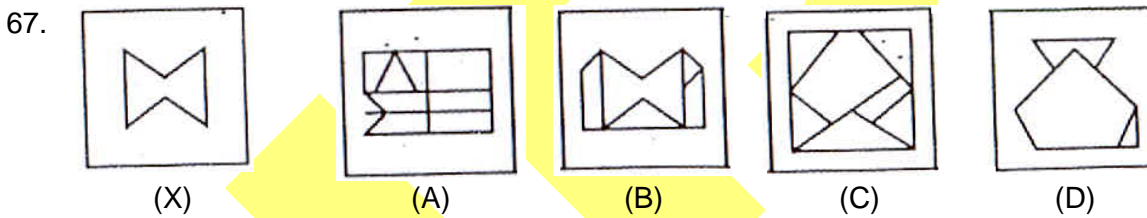
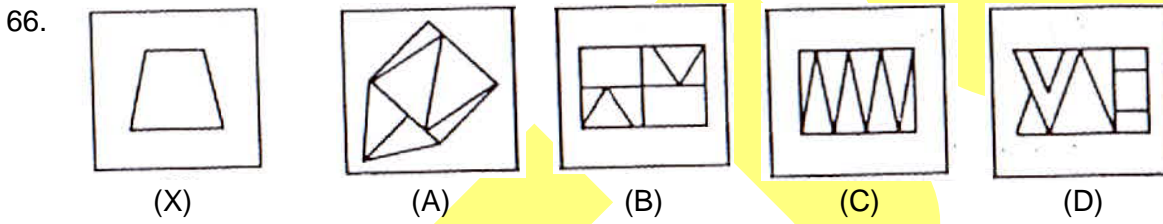
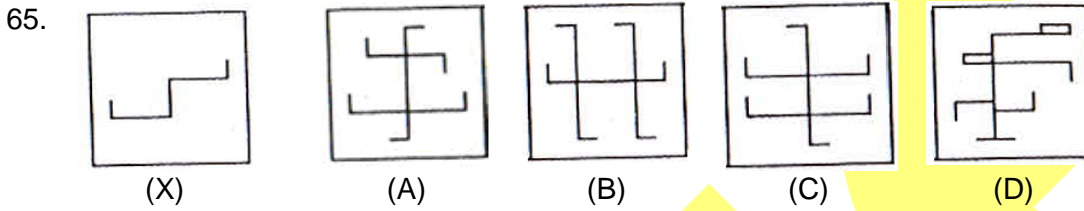
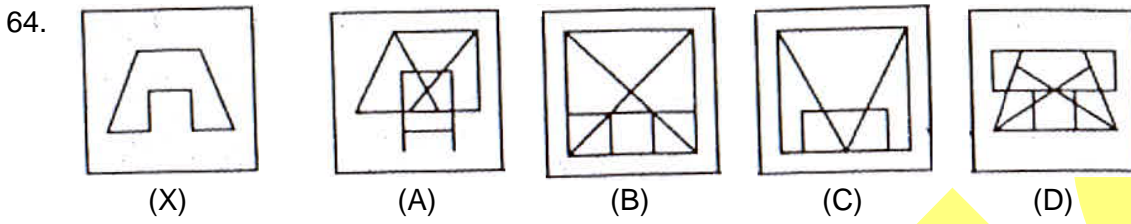
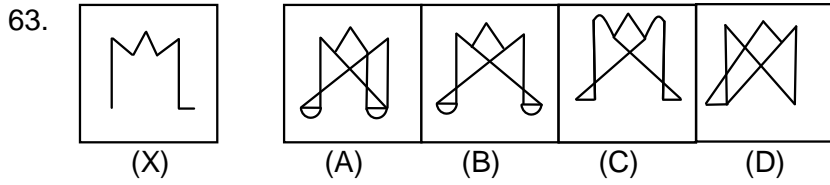
- (A)
- (B)
- (C)
- (D)

*Space For Rough Work*





Space For Rough Work



68. If 'light' is called 'morning', 'morning' is called 'dark', 'dark' is called 'night', 'night' is called 'sunshine' and 'sunshine' is called 'dusk', when do we sleep?  
 (A) Night (B) Sunshine  
 (C) Dusk (D) Dark

Space For Rough Work

69. 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) East (B) West  
(C) North (D) South
70. A man walks 1 km towards East and then he turns to South and walks 5 km. Again he turns to East and walks 2km, after this he turns to North and walks 9km. Now, how far is he from his starting point :  
(A) 3 km (B) 4 km  
(C) 5 km (D) 7 km
71. P, Q, R and S are playing a game of carrom. P, R and S, Q are partners. S is to the right of R who is facing west. Then, Q is facing :  
(A) North (B) South  
(C) East (D) West
72. Ravi travelled 8 km straight towards South. He turned left and travelled 6 km straight. How far is he from the starting point:  
(A) 8 km (B) 10 km  
(C) 12 km (D) 18 km
73. A man walks 30 m towards South. Then turning to his right he walks 30 m. Then turning to his left he walks 20 m. Again turning to his left he walks 30 m. How far is he from his starting position:  
(A) 30 m (B) 50 m  
(C) 80 m (D) None of these
74. A watch reads 4:30. If the minute hand points East, in what direction will the hour hand point:  
(A) South-East (B) North-East  
(C) North (D) North-West

**Directions (75 – 84):** Select the correct alternative from the given choices.

75. 5, 11, 17, 23, \_\_\_ 35  
(A) 27 (B) 29  
(C) 25 (D) 31
76. 63, 66, 71, 78, 87, \_\_\_  
(A) 108 (B) 98  
(C) 88 (D) 96
77. 4, 49, 144, 289, \_\_\_  
(A) 529 (B) 441  
(C) 400 (D) 484

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*Space For Rough Work*

78. 67, 71, 73, 79, 83, \_\_, \_\_  
 (A) 87, 89 (B) 89, 91 (C) 89, 97 (D) 93, 97
79. 113, 136, 161, 188, \_\_, 248  
 (A) 213 (B) 231 (C) 223 (D) 217
80. 8, 40, 20, 100, 50, \_\_, 125  
 (A) 225 (B) 250 (C) 200 (D) 300
81. 1728, 1385, 1169, 1044, 980, \_\_  
 (A) 972 (B) 916 (C) 954 (D) 953
82. 12, 36, 150, 392, 1452, \_\_  
 (A) 2452 (B) 2197 (C) 2246 (D) 2366
83. 49, 1625, 3649, 6481, \_\_  
 (A) 81100 (B) 100144 (C) 100121 (D) 121169
84. 4, 18, 100, 294, \_\_  
 (A) 1000 (B) 1100 (C) 1210 (D) 1452

**Directions (85 – 90):** In each of the following questions, an equation becomes incorrect due to the interchange of two signs. One of the four alternatives under it specifies the interchange of signs in the equation, which when made will make the equation correct. Find the correct alternative.

85.  $9 + 5 \div 4 \times 3 - 6 = 12$   
 (A) + and  $\times$  (B)  $\div$  and  $\times$  (C)  $\div$  and - (D) + and -
86.  $2 \times 3 + 6 - 12 \div 4 = 17$   
 (A)  $\times$  and + (B) + and - (C) + and  $\div$  (D) - and  $\div$
87.  $5 + 6 \div 3 - 12 \times 2 = 17$   
 (A)  $\div$  and  $\times$  (B) + and  $\times$  (C) + and  $\div$  (D) + and -
88.  $380 \times 19 + 2 - 4 \div 2 = 14$   
 (A)  $\times$  and + (B)  $\times$  and  $\div$  (C)  $\div$  and  $\times$  (D)  $\div$  and -
89.  $121 \div 11 - 3 \times 13 + 2 = 22$   
 (A) - and  $\times$  (B) - and  $\div$  (C)  $\div$  and - (D) + and -
90.  $56 \div 7 \times 2 + 8 - 1 = 9$   
 (A)  $\times$  and - (B)  $\div$  and  $\times$  (C) + and - (D) + and  $\div$

*Space For Rough Work*

# FIITJEE INTERNAL TEST

Batch: NWCMLG425A1

PHASE - III

## Mental Ability Test (MAT)

QP CODE: 100866

ANSWERS

1.	A	2.	D	3.	D	4.	D
5.	A	6.	B	7.	D	8.	D
9.	C	10.	B	11.	C	12.	C
13.	B	14.	C	15.	D	16.	C
17.	A	18.	C	19.	B	20.	A
21.	B	22.	D	23.	B	24.	D
25.	C	26.	A	27.	D	28.	C
29.	B	30.	D	31.	A	32.	B
33.	A	34.	D	35.	A	36.	A
37.	D	38.	A	39.	D	40.	B
41.	C	42.	B	43.	D	44.	C
45.	D	46.	B	47.	B	48.	C
49.	B	50.	C	51.	C	52.	C
53.	D	54.	B	55.	C	56.	D
57.	B	58.	C	59.	B	60.	B
61.	A	62.	A	63.	B	64.	D
65.	C	66.	C	67.	B	68.	B
69.	B	70.	C	71.	A	72.	B
73.	B	74.	B	75.	B	76.	B
77.	D	78.	C	79.	D	80.	B
81.	D	82.	D	83.	C	84.	C
85.	C	86.	A	87.	A	88.	C
89.	A	90.	C				

# Answers & Solutions

1. A  
Sol. MIRACLE

2. D  
Sol. GAMBLE

3. D  
Sol. Grass → cow → milk → curd → butter

4. D  
Sol. Education → job → income → well – being → status

5. A  
Sol. As,  
 $F \xrightarrow{-1} E$       Similarly  $J \xrightarrow{-1} I$   
 $I \xrightarrow{-1} H$        $U \xrightarrow{-1} T$   
 $S \xrightarrow{-1} R$        $N \xrightarrow{-1} M$   
 $H \xrightarrow{-1} G$        $G \xrightarrow{-1} F$   
                           $L \xrightarrow{-1} K$   
                           $E \xrightarrow{-1} D$

6. B  
Sol. As,  
 $G \xrightarrow{-1} F$       Similarly  $B \xrightarrow{-1} A$   
 $I \xrightarrow{+1} J$        $O \xrightarrow{+1} P$   
 $R \xrightarrow{+1} S$        $Y \xrightarrow{-1} X$   
 $L \xrightarrow{-1} K$

7. D  
Sol. A    B    C    D    E    F    G    H    I    J    K    L    M  
       N    O    P    Q    R    S    T    U    V    W    X    Y    Z  
 5<sup>th</sup> letter to the right of F is K. Fourth letter to the left of K is G.

8. D  
Sol. The letter which is 8<sup>th</sup>, to the right of P is X. The 6<sup>th</sup> letter to the left of X is R.

9. C  
Sol. The 7<sup>th</sup> letter to the left of O is H. The third letter to the right of H is K.

10. B  
Sol. Word: P    A    R    T    N    E    R  
       Logic: -1   -1   -1   -1   -1   -1   -1  
       Code: O    Z    Q    S    M    D    Q  
 Similar the code for SEGMENT is  
       Word: S    E    G    M    E    N    T  
       Logic: -1   -1   -1   -1   -1   -1   -1  
       Code: R    D    F    L    D    M    S

11. C  
 Sol. Word: R E C T A N G L E  
 Logic: +2 +2 +2 +2 +2 +2 +2 +2 +2  
 Code: T G E V C P I N G  
 Similarly, the code for RHOMBUS is  
 Word: R H O M B U S  
 Logic: +2 +2 +2 +2 +2 +2 +2  
 Code: T J Q O D W U
12. C  
 Sol. lin is common in first two sentences, it stands for is. nso is common in last two sentences, it stands for something. Clearly, in second statement there stands for ons.
13. B  
 Sol. is – are (From 1st and 2nd)  
 fast – wise (From 2nd and 3rd)  
 train – we (From 2nd and above)
14. C  
 Sol. In the word COMPANY, every alternate letter starting from the first is coded by taking the sum of the digits in its place value as per the alphabet.  
 i.e., C = 3  
 M = 13  $\Rightarrow$  1 + 3 = 4 and the 4<sup>th</sup> letter is D and so on  
 The other letters remain as they are  
 Hence, COMPANY is coded as CODPANG  
 Similarly, COUNTRY is coded as COCNBRG
15. D  
 Sol. Pagan, Page, Pageant, Palate, Palisade
16. C  
 Sol. Seldom, Select, Selfish, Seller, Send
17. A  
 Sol. Repent, Reprint, Report, Reptile, Repute
18. C  
 Sol. Problem, Project, Property, Protein, Proverb
19. B  
 Sol. There are nine letters between G and Q – H, I, J, K, L, M, N, O, P. Clearly, the middle letter is L.
20. A  
 Sol. The 18<sup>th</sup> letter from the left is R and the 10<sup>th</sup> letter from the right is Q. Clearly, no letter lies between Q and R.
21. B  
 Sol. T is seventh letter to the right of M. Similarly, the seventh letter to the right of G is N.
22. D  
 Sol.  $11 \times 3 + 3 = 36$   
 $23 \times 3 + 3 = 72$

23. **B**

Sol.  $A + 2 = C$        $B + 2 = D$   
 $C + 4 = G$        $E + 4 = I$   
 $D + 6 = J$        $H + 6 = N$   
 $F + 8 = N$        $I + 8 = Q$   
Hence option 'B' is answer.

24. **D**

Sol.  $W - 2 = T$        $B - 2 = Y$   
 $S - 3 = O$        $T - 3 = P$   
 $T - 4 = O$        $U - 4 = P$   
Hence option 'D' is answer.

25. **C**

Sol. Socks are worn on feet, similarly gloves are worn on hands.

26. **A**

Sol. Earth is a Planet, similarly Carrot is a Vegetable.

27. **D**

Sol. Pig have Piglets, similarly Dog have Puppy.

28. **C**

Sol.  $13^3 = 2197$  similarly  $9^3 = 729$   
Hence option 'C' is answer.

29. **B**

Sol.  $B \rightarrow 8, F \rightarrow 6, Q \rightarrow 4, D \rightarrow 7, T \rightarrow 2, M \rightarrow 3$  and  $K \rightarrow 5$

$Q \rightarrow 4$

$K \rightarrow 5$

$T \rightarrow 2$

$B \rightarrow 8$

$F \rightarrow 6$

$M \rightarrow 3$

30. **D**

Sol. Number of letters in the word INVADER = 7 and  $7 \times 6 = 42$ , number of letters in the word SECURE = 6 and  $6 \times 5 = 30$   
Similarly, SITUATION  
 $\Rightarrow 9 \times 8 = 72$

31. **A**

Sol. Word: S      E      C      T      O      R  
Logic: The word is divided into two halves and each half is reversed.  
Code: C      E      S      R      O      T  
Similarly, OPPOSITION is coded as SOPPONOITI.



32. **B**  
 Sol. In this, product of the digits in the place – values of the letters as per the alphabet is obtained first and then added i.e., CUSTOM  
 $\Rightarrow C = 3$   
 $U = 21 \Rightarrow 2 \times 1 = 2$   
 $S = 19 \Rightarrow 1 \times 9 = 9$   
 $T = 20 \Rightarrow 2 \times 0 = 0$   
 $O = 15 \Rightarrow 1 \times 5 = 5$   
 $M = 13 \Rightarrow 1 \times 3 = 3$   
 Now, CUSTOM =  $3 + 2 + 9 + 0 + 5 + 3 = 22$   
 Similarly, LABOUR = 20 and HISTORY = 49
33. **A**  
 Sol. The first, second, third, fourth and fifth letters in the word are respectively one, two, three, four and five steps ahead of the corresponding letter of the code.
34. **D**  
 Sol. Word: F O U N D A T I O N  
 Logic: Pairs of letters in the word are reversed  
 Code: O F N U A D I T N O  
 Similarly, INTERIOR is coded as NIETIRRO.
35. **A**  
 Sol. TILLAGE – All the letters except 'A' are present in the main word. Hence, 'TILLAGE' cannot be formed from the letters of the given word 'INTELLIGENCE'.
36. **A**  
 Sol. PISTON – All the letters except 'T' are present in the main word. Hence, 'PISTON' cannot be formed from the letters of the given word 'SUPERVISION'.
37. **D**  
 Sol. GREAT – All the letters except 'E' are present in the main word. Hence, 'GREAT' cannot be formed from the letters of the given word 'AUTOGRAPHS'.
38. **A**  
 Sol. All the letters of word 'EMINENT' are there in main word 'ENVIRONMENT'.
39. **D**  
 Sol. As,  
 $H \xrightarrow{+1} I$       Similarly  $S \xrightarrow{+1} T$   
 $A \xrightarrow{+1} B$        $O \xrightarrow{+1} P$   
 $P \xrightarrow{+1} Q$        $R \xrightarrow{+1} S$   
 $P \xrightarrow{+1} Q$        $R \xrightarrow{+1} S$   
 $Y \xrightarrow{+1} Z$        $O \xrightarrow{+1} P$   
 $W \xrightarrow{+1} X$

40. B

Sol. As,

$$M \xrightarrow{+1} N$$

$$A \xrightarrow{+1} B$$

$$D \xrightarrow{+1} E$$

$$R \xrightarrow{+1} S$$

$$A \xrightarrow{+1} B$$

$$S \xrightarrow{+1} T$$

Similarly  $B \xrightarrow{+1} C$

$$O \xrightarrow{+1} P$$

$$M \xrightarrow{+1} N$$

$$B \xrightarrow{+1} C$$

$$A \xrightarrow{+1} B$$

$$Y \xrightarrow{+1} Z$$

41. C

Sol. As,

$$M \xrightarrow{+1} N$$

$$I \xrightarrow{+2} K$$

$$R \xrightarrow{+3} U$$

$$A \xrightarrow{+4} E$$

$$C \xrightarrow{+5} H$$

$$L \xrightarrow{+6} R$$

$$E \xrightarrow{+7} L$$

Similarly  $G \xrightarrow{+1} H$

$$A \xrightarrow{+2} C$$

$$M \xrightarrow{+3} P$$

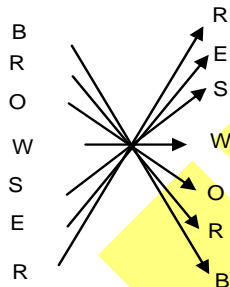
$$B \xrightarrow{+4} F$$

$$L \xrightarrow{+5} Q$$

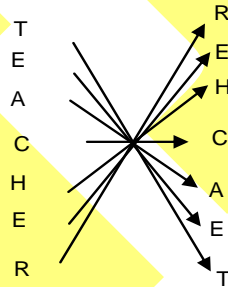
$$E \xrightarrow{+6} K$$

42. B

Sol.



Similarly



43. D

Sol.

$$F \xrightarrow{-1} E$$

$$R \xrightarrow{+2} T$$

$$I \xrightarrow{+2} K$$

$$E \xrightarrow{-1} D$$

$$N \xrightarrow{+2} P$$

$$D \xrightarrow{+2} F$$

Similarly

$$R \xrightarrow{-1} Q$$

$$E \xrightarrow{+2} G$$

$$V \xrightarrow{+2} X$$

$$E \xrightarrow{-1} D$$

$$A \xrightarrow{+2} C$$

$$L \xrightarrow{+2} N$$

44. C

Sol.

$$B \xrightarrow{-1} A$$

$$E \xrightarrow{+1} F$$

$$L \xrightarrow{-1} K$$

$$I \xrightarrow{+2} K$$

$$E \xrightarrow{-1} D$$

$$F \xrightarrow{+2} H$$

Similarly

$$S \xrightarrow{-1} R$$

$$E \xrightarrow{+1} F$$

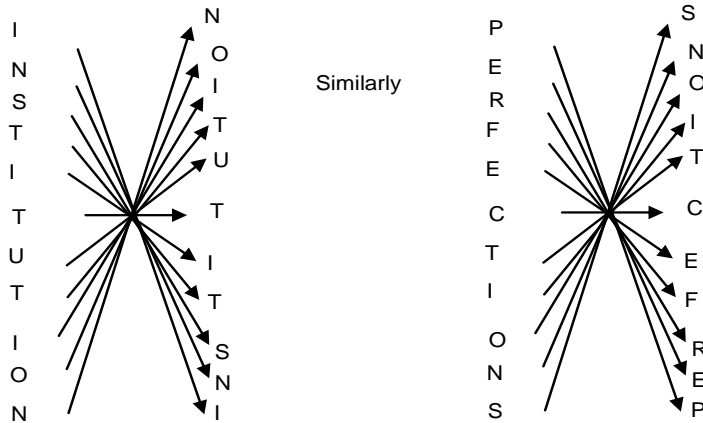
$$L \xrightarrow{-1} K$$

$$D \xrightarrow{+2} F$$

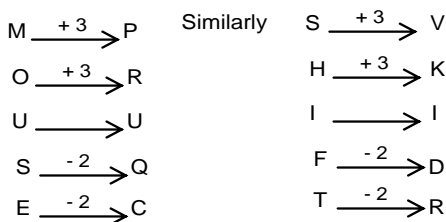
$$O \xrightarrow{-1} N$$

$$M \xrightarrow{+2} O$$

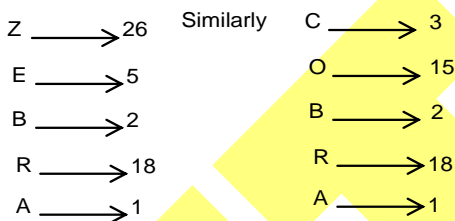
45. D  
Sol.



46. B  
Sol.



47. B  
Sol.



48. C  
Sol.



49. B  
Sol.

The correct alphabetical order of the given words is :  
SCENE, SIGN, SIMPLE, SOLID. Thus, the correct sequence is 3, 1, 4, 2.

50. C  
Sol.

The given letter, when arranged in the order 3, 5, 2, 1, 4. Form the word HEAVY.

51. C  
Sol.

ABCD PQRS / ABCDE PQRST / ABCDEF PQRST U

52. C  
Sol.

Ninth element to the right of the twentieth from the right end of the given arrangement  
= (20 - 9)th  
= 11<sup>th</sup> from the right end = U

53. D  
Sol.

The new alpha numeric arrangement obtained on reversing the last twelve elements:

So, the twenty fourth element from the left end = 2

54. B

55. C

56. D

57. B

58. C

59. B

60. B

61. (X) (A) (B) (C) (D)  
A

62. (X) (A) (B) (C) (D)  
A

63. (X) (A) (B) (C) (D)  
B

64. D

Sol. As per observation.

65. C

Sol. As per observation.

66. C

Sol. As per observation.

67. B

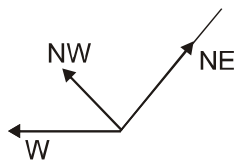
Sol. As per observation.

68. B

Sol. We sleep in the 'night'. But 'night' is called 'sunshine'. So, we sleep in the 'sunshine'.

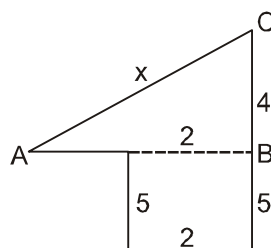
69. B

Sol. Now he is looking to west

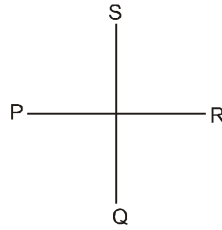


70. C

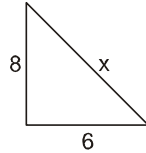
Sol.  $x^2 = 4^2 + 3^2$   
 $= 25$   
 $= \sqrt{25}$   
 $= 5$



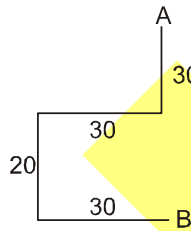
71. A  
Sol. So Q is facing toward North.



72. B  
Sol.  $x^2 = 8^2 + 6^2 = 100$   
 $= \sqrt{100} = 10$



73. B  
Sol.  $AB = 30 + 20 = 50$



74. B  
Sol.
- 

75. B  
Sol.  $5 + 6, 11 + 6, 17 + 6, 23 + 6, \underline{29 + 6}, 35$   
 $23 + 6 = 29$

76. B  
Sol.  $63 + 3, 66 + 5, 71 + 7, 78 + 9, 87 + 11, \underline{98}$   
 $87 + 11 = 98$  (Consecutive odd numbers are added)

77. D  
Sol. This can be written as  $(2)^2, (7)^2, (12)^2, (17)^2, \underline{\quad}$   
 $2 + 5 = 7, 7 + 5 = 12$  and  $17 + 5 = 22$  and  $(22)^2 = 484$

78. C  
Sol. The series consists of successive prime numbers. The prime numbers after 83 are 89 and 97.

79. D  
Sol.  $113 + 23, 136 + 25, 161 + 27, 188 + 29, \underline{217 + 31}, 248$   
Successive odd numbers starting from 23 are added to generate series.  $188 + 29 = 217$ .

80. B  
Sol.  $8 \times 5, 40 \div 2, 20 \times 5, 100 \div 2, 50 \times 5, \underline{250 \div 2}, 125$   
 $50 \times 5 = 250$ .

81. **D**  
 Sol. 1728-343, 1385-216, 1169-125, 1044-64, 980-27, \_\_\_  
 $343 = 7^3$ ;  $216 = 6^3$ ;  $125 = 5^3$  and so on  
 $980 - 27 = 953$

82. **D**  
 Sol. The given series can be written as  $(2)^3 + (2)^2$ ,  $(3)^3 + (3)^2$ ,  $(5)^3 + (5)^2$ ,  $(7)^3 + (7)^2$ ,  
 $(11)^3 + (11)^2$ ,  $(13)^3 + (13)^2$   
 $(13)^3 + (13)^2 = 2197 + 169 = 2366$

83. **C**  
 Sol. The above series can be written as  
 $2^2 \ 3^2$ ,  $4^2 \ 5^2$ ,  $6^2 \ 7^2$ ,  $8^2 \ 9^2$ ,  $10^2 \ 11^2$   
 $10^2 = 100$  and  $11^2 = 121$   
 100121

84. **C**  
 Sol.  $4 \quad 18 \quad 100 \quad 294 \quad \underline{1210}$   
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow$   
 $2^3 - 2^2 \quad 3^3 - 3^2 \quad 5^3 - 5^2 \quad 7^3 - 7^2 \quad 11^3 - 11^2$   
 All the numbers are of the form of  $n^3 - n^2$  and are all primes.

85. **C**  
 Sol. By applying BODMAS rule.

86. **A**  
 Sol. By applying BODMAS rule.

87. **A**  
 Sol. By applying BODMAS rule.

88. **C**  
 Sol. By applying BODMAS rule.

89. **A**  
 Sol. By applying BODMAS rule.

90. **C**  
 Sol. By applying BODMAS rule.