Ultimate Guide to
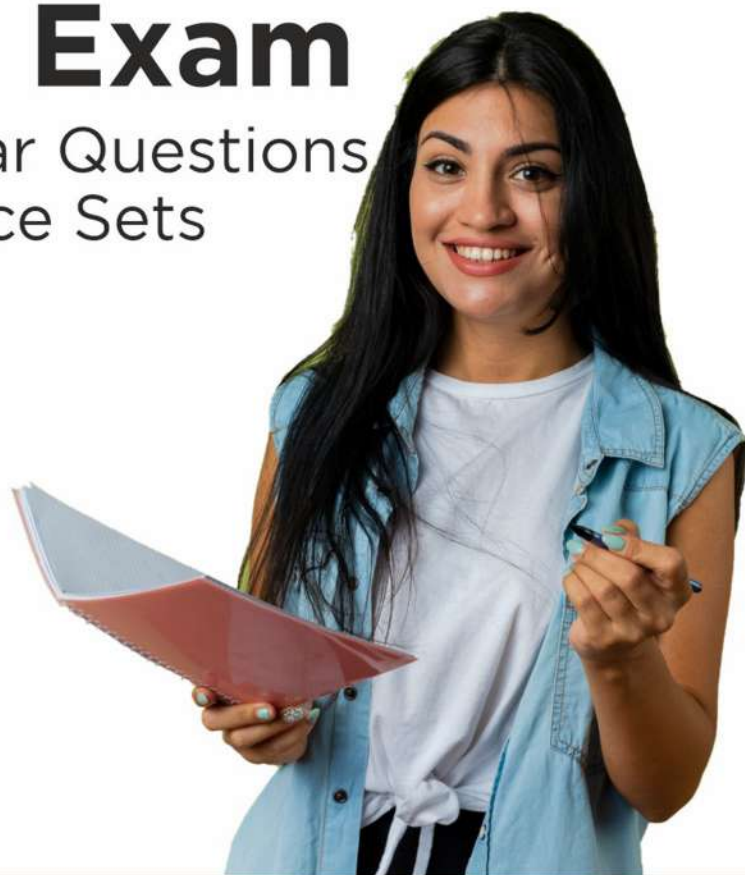# SSC CGL
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Contents

1 Analogy

The meaning of analogy is 'similar properties' or similarity. If an object or word or digit or activity shows any similarity with another object or word or digit or activity in terms of properties, type, shape, size, trait etc., then the particular similarity will be called analogy. For example, cricket : ground and chess: table are the analogous pairs (why?). In fact, both pairs of words have similar relationship in terms of place of playing as cricket is played in the ground and similarly chess is played on the table.

TYPES OF ANALOGY.

1. **Tool & object based analogy:** This establishes a relationship between a tool and the object in which it works. Similar relations has to be discovered from answer choices.
   Examples:

Pencil	:	Paper
Saw	:	Wood
Eraser	:	Paper

2. **Synonym based analogy :** In such type of analogy two words have similar meaning.
   Examples:

Big	:	Large
Huge	:	Gigantic
Notion	:	Idea
Huge	:	Big

3. **Worker & tool based analogy:** This establishes a relationship between a particular tool and the person of that particular profession who uses that tool.
   Examples:

Writer	:	Pen
Barber	:	Scissors
Hunter	:	Gun

4. **Worker & product based analogy:** This type of analogy gives a relationship between a person of particular profession and his/her creations.
   Examples:

Batsman	:	Run
Writer	:	Book
Journalist	:	News

5. **Cause & effect based analogy:** In such type of analogy 1st word acts and the 2nd word is the effect of that action.
   Examples:

Work	:	Tiredness
Bath	:	Freshness

6. **Opposite relationship (Antonym) based analogy :** In such type of analogy the two words of the question pair are opposite in meaning. Similar relations has to be discovered from the answer choice word pairs.
   Examples:

Poor	:	Rich
Big	:	Small
Light	:	Dark
Avoid	:	Meet

7. **Gender based analogy:** In such type of analogy, one word is masculine and another word is feminine of it. In fact, it is a 'male and female' or 'gender' relationship.
   Examples:

Man	:	Woman
Bull	:	Cow
Duck	:	Drake

8. **Classification based analogy:** This type of analogy is based on biological, physical, chemical or any other classification. In such problems the 1st word may be classified by the 2nd word and vice-versa.
   Examples:

Cow	:	Animal
Girl	:	Human
Oxygen	:	Gas
Snake	:	Reptile

9. **Function based analogy :** In such type of analogy, 2nd word describes the function of the 1st word.
   Examples:

Singer	:	Sings
Player	:	Plays
Surgeon	:	Operates

10. **Quantity and unit based analogy:** In such type of analogy 2nd word is the unit of the first word and vice-versa.
    Examples:

Distance	:	Mile
Mass	:	Kilogram
Length	:	Meter

11. **Finished product & raw material based analogy :** In such type of analogy the 1st word is the raw material and 2nd word is the end product of that raw material and vice-versa.
    Examples:

Yarn	:	Fabric
Milk	:	Curd
Grape	:	Wine

12. **Utility based analogy :** In such type of analogy the 2nd word shows the purpose of the 1st word or vice-versa.

Examples:

Pen	:	Writing
Food	:	Eating
Bed	:	Sleeping

13. **Symbolic relationship based analogy:** In such type of analogy, the 1st word is the symbol of the 2nd word and vice-versa.

    Examples:

White	:	Peace
Black	:	Sorrow
Swastika	:	Fortune

14. **Adult & young one based analogy :** In such type of analogy, the 1st word is the adult one and 2nd word is the young one of the 1st word or vice-versa.

    Examples:

Cow	:	Calf
Human	:	Child
Dog	:	Puppy

15. **Subject & specialist based analogy:** In such type of analogy the 2nd word is the specialist of 1st word (subject) or vice-versa.

    Examples:

Heart	:	Cardiologist
Skin	:	Dermatologist

16. **Habit based analogy:** In this type of analogy 2nd word is the habit of 1st and vice-versa.

    Examples:

Cat	:	Omnivorous
Cow	:	Herbivorous
Goat	:	Herbivorous

17. **Instrument and measurement based analogy:** We see in this type of analogy, the 1st word is the instrument to measure the 2nd word and vice-versa:

    Examples:

Hygrometer	:	Humidity
Barometer	:	Pressure
Thermometer	:	Temperature

18. **Individual & group based analogy :** Second word is the group of 1st word (or vice-versa) in such type of analogy.

    Examples:

Cow	:	Herd
Sheep	:	Flock
Singer	:	Chorus

19. **State & capital based analogy:** 1st word is the state and 2nd word is the capital of that state (1st word) (or vice-versa) in the analogy like this.

Examples:

Bihar	:	Patna
West Bengal	:	Kolkata
Maharashtra	:	Mumbai

20. **Analogy based on individual & dwelling place :** In such type of analogy 1st word is the individual & 2nd word is the dwelling place of that individual (1st word) and vice-versa.

    Examples:

Horse	:	Stable
Birds	:	Aviary
Human	:	House

21. **Analogy based on worker and working place:** In this type of analogy the 1st word represents a person of particular profession and 2nd word represents the working place of that person (1st word) and vice-versa.

    Examples :

Doctor	:	Hospital
Cook	:	Kitchen
Professor	:	College

22. **Analogy based on topic study:** 1st word is the study of the 2nd word (or vice-versa) in the analogy like this.

    Examples:

Birds	:	Ornithology
Earth quakes	:	Seismology
Eggs	:	Zoology

23. **Analogy based on letters (or meaningless words)**

    Case I : (Forward alphabetical sequence)

    Examples:

    CD : FG : : PQ : UV

    Here CD and FG are in the natural alphabetical sequence. Similarly, PQ & UV are in the natural alphabetical sequence.

    Case II: (Backward or opposite alphabetical sequence)

    Example:

    DC : GF : : QP : VU

    In fact this case is opposite of case I

    Case III: (Vowel – consonant relation)

    Example

    ATL : EVX : : IPR : ORS

    Here, the 1st two words start with the 1st two vowels A & E and the next two words start with the next two vowels I & O. Last two letter of every word are consonants.

    Case IV: Example (Skip letter relation)

    ABC : FGH : : IJK : NOP

    Here between ABC & FGH two letters skip and they are D & E. Similarly, between IJK & NOP two letters skip and they are L & M.

EXERCISE

1. Which of the following is related to 'Melody' in the same way as 'Delicious' is related to 'Taste'?
    (a) Memory   (b) Highness
    (c) Voice   (d) Speak
2. In a certain way 'Diploma' is related to 'Education'. Which of the following is related to 'Trophy' in a similar way?
    (a) Sports   (b) Athlete
    (c) Winning   (d) Prize
3. 'Clock' is related to 'Time' in the same way as 'Vehicle' is related to which of the following?
    (a) Driver   (b) Road
    (c) Passenger   (d) Journey
4. "Illness" is related to "Cure" in the same way as "Grief" is related to
    (a) Happiness   (b) Ecstasy
    (c) Remedy   (d) Solicitude
5. 'Bouquet' is related to 'Flowers' in the same way as 'sentence' is related to
    (a) Letters   (b) Paragraph
    (c) Content   (d) Words
6. 'Electricity' is related to 'Wire' in the same way as 'Water' is related to
    (a) Bottle   (b) Jug
    (c) River   (d) Pipe
7. Mathematics is related to Numbers in the same way History is related to :
    (a) People   (b) Events
    (c) Dates   (d) Wars
8. 'Locker' is related to 'Jewellery' in the same way as 'Godown' is related to
    (a) Storage   (b) Grasim
    (c) Garments   (d) Goods
9. *Distil* is related to Whiskey in the same way as *Brew* is related to .....?.....
    (a) Ferment   (b) Gin
    (c) Beer   (d) Sugar
10. 'Story' is related to 'Novel' in the same way as 'Sea' is related to which of the following?
    (a) Ocean   (b) Water
    (c) River   (d) Pond
11. 'Hygrometer' is related to 'Humidity' in the same way as 'Sphygmomanometer' is related to
    (a) Pressure   (b) Blood Pressure
    (c) Precipitation   (d) Heart Beat
12. 'Engineer' is related to 'Machine' in the same way as 'Doctor' is related to
    (a) Hospital   (b) Body
    (c) Disease   (d) Medicine
13. 'Dream' is related to 'Reality' is the same way as 'Falsehood' is related to which of the following.
    (a) Untruth   (b) Truth
    (c) Fairness   (d) Correctness

14. 'Frame work' is related to 'House' in the same way as 'Skeleton' is related to which of the following?
    (a) Ribs   (b) Skull
    (c) Body   (d) Grace

DIRECTIONS (Qs. 15 - 50) : *In each of the following questions, there are two words / set of letters / numbers to the left of the sign :: which are connected in some way. The same relationship obtains between the third words / set of letters / numbers and one of the four alternatives under it. Find the correct alternative in each question.*

---

15. Import : Export :: Expenditure : ?
    (a) Deficit   (b) Income
    (c) Debt   (d) Tax
16. Ocean : Water :: Glacier : ?
    (a) Refrigerator   (b) Ice
    (c) Mountain   (d) Cave
17. Medicine : Sickness :: Book : ?
    (a) Ignorance   (b) Knowledge
    (c) Author   (d) Teacher
18. Bank : River :: Coast : ?
    (a) Flood   (b) Waves
    (c) Sea   (d) Beach
19. Thunder : Rain :: Night : ...
    (a) Day   (b) Dusk
    (c) Darkness   (d) Evening
20. Breeze : Cyclone : : Drizzle : ?
    (a) Earthquake   (b) Storm
    (c) Flood   (d) Downpour
21. Disease : Pathology :: Planet : ?
    (a) Astrology   (b) Geology
    (c) Astronomy   (d) Palaeontology
22. Foresight : Anticipation :: Insomnia : ?
    (a) Treatment   (b) Disease
    (c) Sleeplessness   (d) Unrest
23. Oasis : Sand :: Island : ?
    (a) River   (b) Sea
    (c) Water   (d) Waves
24. Major : Battalion :: Colonel : ?
    (a) Company   (b) Regiment
    (c) Army   (d) Soldiers
25. Shout : Whisper :: Run : ?
    (a) Stay   (b) Stand
    (c) Walk   (d) Hop
26. Smoke : pollution : : war : ?
    (a) victory   (b) peace
    (c) treaty   (d) destruction
27. Hour : second : : tertiary : ?
    (a) ordinary   (b) secondary
    (c) primary   (d) intermediary
28. Safe : secure : : Protect : ?
    (a) guard   (b) lock
    (c) sure   (d) conserve

29. Penology : Punishment : Seismology : ....
    (a) Law
    (b) Earthquake
    (c) Liver
    (d) Medicine
30. DRIVEN : EIDRVN :: BEGUM : ?
    (a) EUBGM
    (b) MGBEU
    (c) BGMEU
    (c) UEBGM
31. NUMBER : UNBMER :: GHOST : ?
    (a) HOGST
    (b) HOGTS
    (c) HGOST
    (d) HGSOT
32. MASTER : OCUVGT :: LABOUR : ?
    (a) NCDQWT
    (b) NDERWT
    (c) NBCRWT
    (d) NEDRWT
33. RIDE : LNBE :: HELP : ?
    (a) NINP
    (b) BAJP
    (c) JPCH
    (d) BJJP
34. MUMBAI : LTLAZH : : DELHI : _____
    (a) CDKGJ
    (b) IHLED
    (c) CDKGH
    (d) BCKGH
35. RATIONAL : RATNIOLA :: _____ : TRILBA
    (a) TIRLAB
    (b) TRIBAL
    (c) TRIALB
    (d) TIRBAL
36. HEATER : KBDQHO :: COOLER : ?
    (a) ALRHV
    (b) FLRIHO
    (c) FLIRHO
    (d) FRLIHO
37. ACE : HIL :: MOQ : ?
    (a) XVT (b)
         TVX
    (c) VTX (d)
         TUX
38. ACBD : EFGH : : OQPR –
    (a) STUV
    (b) RSTU
    (c) UVWX
    (d) QRST
39. TSR : FED :: WVU ?
    (a) CAB (b)
         MLK
    (c) PQS
    (d) GFH
40. CJDL : FMGR :: IKJR : ?
    (a) OQPT
    (b) RSTU
    (c) LSMT
    (d) KRMO
41. BCDA : STUR :: KLMJ : ?
    (a) VWXU
    (b) EFHG
    (c) SRTU
    (d) QSRP
42. CEG : EGC : : LNP :
    (a) LPN
    (b) UWY
    (c) NPL
    (d) MOP
43. KLM : PON : : NOP : ....
    (a) LMK
    (b) MLK
    (c) NML
    (d) KLN
44. ACE : FGH :: LNP : ?
    (a) QRS
    (b) PQR
    (c) QST
    (d) MOQ
45. 14 : 9 :: 26 : ?
    (a) 12
    (b) 13
    (c) 15
    (d) 31
46. 11 : 17 : : 19 : ?
    (a) 29
    (b) 27
    (c) 23
    (d) 21
47. 3 : 27 :: 4 : ?
    (a) 140
    (b) 75
    (c) 100
    (d) 64

48. 12 : 30 : : 20 : ?
    (a) 25
    (b) 32
    (c) 35
    (d) 42
49. 3 : 10 :: 8, ?
    (a) 10
    (b) 13
    (c) 14
    (d) 17
50. 13 : 19 :: ? : 31
    (a) 21
    (b) 23
    (c) 25
    (d) 26

DIRECTIONS (Qs. 51-56): *In the following Six Questions, select the related word/letters/number from the given alternatives.*

51. Haematology : Blood : : Phycology : ?
    (a) Fungi
    (b) Fishes
    (c) Algae
    (d) Diseases
52. Pride of Lions : : _____ of cats
    (a) Herd
    (b) School
    (c) Clowder
    (d) Bunch
53. MAN : PDQ : : WAN : ?
    (a) ZDQ
    (b) NAW
    (c) YQD
    (d) YDQ
54. AEFJ : KOPT : : ? : QUVZ
    (a) GLKP
    (b) GKLP
    (c) HLKP
    (d) HKQL
55. 2 : 32 : : 3 : ?
    (a) 243
    (b) 293
    (c) 183
    (d) 143
56. D × H : 4 × 8 as M × Q : ?
    (a) 12 × 17
    (b) 12 × 16
    (c) 13 × 17
    (d) 14 × 18

DIRECTIONS (Qs. 57-59) : *Select the related word/letters/ numbers from the given alternatives:*

57. Medicine : Patient : : Education : ?
    (a) Teacher
    (b) School
    (c) Student
    (d) Tuition
58. LAMP : IXJM :: FISH : ?
    (a) CGPF
    (b) CFQE
    (c) CFPE
    (d) CGQF
59. 13 : 20 : : 17 : ?
    (a) 25
    (b) 26
    (c) 27
    (d) 28

DIRECTIONS (Qs. 60 - 62) : *In the following question, select related word pair/number from the given alternatives.*

60. Fire : Burn : : ? : ?
    (a) Water : Drink
    (b) Wood : Tress
    (c) Ice : Freeze
    (d) Flower : Rose
61. KLMN : IJKL : : TUVW : ?
    (a) RSUT
    (b) VWXY
    (c) STUV
    (d) RSTU
62. 3 : 27 : : 4 : ?
    (a) 63
    (b) 64
    (c) 65
    (d) 15

63. Select the option that is related to the third number in the same way as the second number is related to the first number.
12 : 192 :: 15 : ?   **[SSC CGL, Tier-I-2018]**
(a) 245   (b) 240
(c) 225   (d) 250

64. Select the word-pair in which the two words are related in the same way as the two words in the following word-pair.
Dirty : Filthy   **[SSC CGL, Tier-I-2018]**
(a) Perfect : Unique   (b) Shy : Timid
(c) Cute : Child   (d) Bright : Sunlight

65. 'Heart' is related to 'Circulation in the same way as 'Kidney' is related to _____.   **[SSC CGL, Tier-I-2018]**
(a) Reproduction   (b) Respiration
(c) Energy Production (d) Excretion

66. Select the word pair in which the two words are related in the same way as the two words in the following word-pair.i
Season : Winter   **[SSC CGL, Tier-I-2018]**
(a) Week : Calendar   (b) Summer : Autumn
(c) Year : Century   (d) Month : April

67. 'China' is related to 'Yuan' in the same way as 'Japan' is related to '_____'.   **[SSC CGL, Tier-I-2018]**
(a) Rand   (b) Sushi   (c) Lira   (d) Yen**1**

68. Select the option in which the words share the same relationship as that shared by the given pair of words.
                                                     [SSC CGL, Tier-I-2020]
Handwriting : Graphology
(a) Soil : Ornithology   (b) Earthquakes : Pomology
(c) Matter : Physics   (d) Fossils : Pedology

69. Select the option that is related to the third number in the same way as the second number is related to the first number and the sixth number is related to the fifth number.
13 : 4 :: 19 : ? :: 16 : 5   **[SSC CGL, Tier-I-2020]**
(a) 6   (b) 2   (c) 3   (d) 5

70. Select the option in which the numbers are related in the same way as are the numbers of the following set.
(7, 52, 346)   **[SSC CGL, Tier-I-2020]**
(a) (8, 67, 515)   (b) (4, 19, 70)
(c) (6, 39, 217)   (d) (5, 25, 128)

71. Select the option that is related to the third word in the same way as the second word is related to the first word.
                                                     [SSC CGL, Tier-I-2020]
Nascent : Young : : Adjunct : ?
(a) Against   (b) Supportive
(c) Functional   (d) Rigid

72. Select the option that is related to the third number in the same way as the second number is related to the first number.   **[SSC CGL, Tier-I-2021]**
223 : 350 :: 519 : ?
(a) 736   (b) 645
(c) 687   (d) 654

73. Select the option that is related to the third word in the same way as the second word is related to the first word.
                                                     [SSC CGL, Tier-I-2022]
(The words must be considered as meaningful English words and must not be related to each other based on the number of letters/number of consonants/vowels in the word.)
Library : Books :: Museum : ?
(a) Building   (b) Artefacts
(c) People   (d) Gallery

74. Select the set in which the numbers are related in the same way as are the numbers of the following set.
(3, 14, 1)   **[SSC CGL, Tier-I-2022]**
(4, 36, 2)
(a) (8, 12, 2)   (b) (5, 81, 4)
(c) (7, 40, 3)   (d) (8, 260, 2)

75. Select the option that is related to the third word in the same way as the second word is related to the first word.
                                                     [SSC CGL, Tier-I-2022]
Phone : Talk :: Television : ?
(a) Remote   (b) View
(c) Read   (d) Channel

76. Select the option that is related to the fifth number in the same way as the second number is related to the third number and the fourth number is related to the third number.   **[SSC CGL, Tier-I-2022]**
19 : 324 :: 25 : 576 :: 9 : ?
(a) 16   (b) 64
(c) 88   (d) 72

77. Select the set in which the numbers are related in the same way as are the numbers of the following sets.
(20, 6, 4)   **[SSC CGL, Tier-I-2022]**
(24, 7, 5)
(a) (65, 9, 4)   (b) (22, 5, 2)
(c) (40, 8, 5)   (d) (42, 7, 3)

78. Select the set in which the numbers are related in the same way as are the numbers of the following sets.
(5, 5, 25)   **[SSC CGL, Tier-II-2022]**
(2, 5, 10)
(a) (9, 3, 26)   (b) (4, 4, 20)
(c) (7, 3, 14)   (d) (3, 3, 9)

79. Select the option that is related to the third word in the same way as the second word is related to the first word.
(The words must be considered as meaningful English words and must not be related to each other based on the number of letters/number of consonants/vowels in the word.)
                                                     [SSC CGL, Tier-II-2022]
Crowd : Dense : : Slope : ?
(a) Fill   (b) Plain
(c) Tight   (d) Sleep

80. What approximate value will come in place of the question mark (?) in the following equation? $49.85 - 5.31 + 9.97 = ?$
[SSC CGL, Tier-II-2022]
(a) 1.6
(b) 19
(c) 55
(d) 37

81. Select the set in which the numbers are related in the same way as are the numbers of the following sets.
(1000, 100, 10)
[SSC CGL, Tier-I-2023]
(38, 19, 2)
(a) (3, 3, 9)
(b) (125, 25, 5)
(c) (16, 8, 4)
(d) (5, 5, 5)

82. Select the option that is related to the fifth letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster and the fourth letter-cluster is related to the third letter cluster.
[SSC CGL, Tier-I-2023]
FRENCH : RFNEHC :: RESCUE : ERCSEU :: ANIMAL : ?
(a) NALAMI
(b) INALAM
(c) NAMILA
(d) NAMIAL

83. Select the set in which the numbers are related in the same way as are the numbers of the following sets.
(6, 14, 40)
[SSC CGL, Tier-I-2023]
(10, 14, 48)
(a) (11, 5, 87)
(b) (5, 9, 28)
(c) (5, 6, 45)
(d) (10, 5, 91)

84. Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number.
[SSC CGL, Tier-I-2023]
6 : 16 :: 10 : 28 :: 3 : ?

(a) 14
(b) 12
(c) 7
(d) 6

85. 'Kidney' is related to 'Organ' in the same way as 'Apple' is related to '_____'.
[SSC CGL, Tier-I-2023]
(a) Juicy
(b) Red
(c) Fruit
(d) Medicine

86. Select the set in which the numbers are related in the same way as are the numbers of the following sets.
(300, 100, 100)
[SSC CGL, Tier-I-2023]
(88, 66, 11)
(a) (60, 40, 20)
(b) (44, 22, 11)
(c) (90, 50, 70)
(d) (50, 4, 25)

87. Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::?
: CLQ :: NDK : %
[SSC CGL, Tier-II-2023]
(a) # = AJS, % = MAM
(b) # = AOO, % = PAM
(c) # = EIT, % = QBN
(d) # = DIS, % = PBN

88. Select the set in which the numbers are related in the same way as are the numbers of the following set.
(7, 3, 43)
[SSC CGL, Tier-II-2023]
(5, 2, 21)
(a) (11, 5, 111)
(b) (15, 6, 34)
(c) (13, 23, 131)
(d) (12, 3, 43)

ANSWER KEY

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

Hints & Explanations

1. (c) 'Delicious' is the adjective used for 'Taste'. Similarly, 'Melodious' is the adjective used for 'Voice'.

2. (a) A successful finish of 'Education' equips one with 'Diploma'. Similarly, a successful finish in 'Sports' equips one with 'Trophy'.

3. (d) The clock makes a journey of time.

4. (c) Cure ensures removal of illness in the same way as remedy insures removal of grief.

5. (d) Bouquet is a bunch of flowers. Similarly, Sentence is a set of words that is complete in itself.

6. (d) Wire is the medium to transmit Electricity. Similarly, Pipe is the medium to carry Water.

7. (b) Mathematics is related to the numbers in the same way History is related to Events.

8. (d) Goods are stored in godown.

9. (c) First is process of preparing the second.

10. (a) First is the shorter form of second.
11. (b) First is an instrument to measure the second.
12. (c) First tackles the second.
13. (b) Dream is antonym of Reality. Similarly, falsehood is antonym of truth.
14. (c) Framework is foundation on which house is built. Similarly, body is built around skeleton.
15. (b) The words in each pair are antonyms.
16. (b) First consists of the second.
17. (a) As medicine cures sickness, in the same way, books remove ignorance.
18. (c) Bank is the land beside a river. Similarly, coast is the land beside a sea.
19. (c) As 'Rain' is followed by 'Thunder', similarly 'Darkness' is followed by 'Night'.
20. (d) Second is more intense than the first.
21. (c) Diseases are studied under Pathology. Similarly, planets are studied in Astronomy.
22. (c) The words in each pair are synonyms.
23. (c) 'Oasis' is a water pool amidst sand. Similarly, island is a piece of land amidst water.
    Remember : 'Sea' would have been the answer if we had 'desert' in place of 'sand'.
24. (b) As Major heads a battalion, the Colonel commands a regiment.
25. (c) Whisper is of lesser intense than shouting, so is walking to running.
26. (d) Smoke cause pollution similarly, destruction is the result of war.
27. (c) Second is smallest of hour and similarly, primary is initial stage
28. (a) Safe is synonyms of secure and protect is synonyms of guard.
29. (b) Penology is the study of punishment in the same say seismology is the study of earthquake.
30. (b) Fifth and third letters of the first term are first and second letters of the second term and first two letters of the first term are third and fourth letters of the second term.
31. (d) First two letters of the first term are in reverse order in the second term and so are the next two letters.
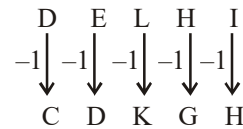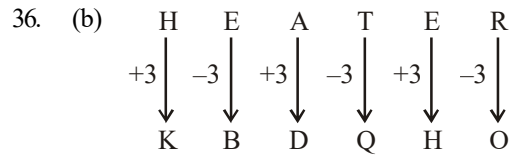
32. (a)
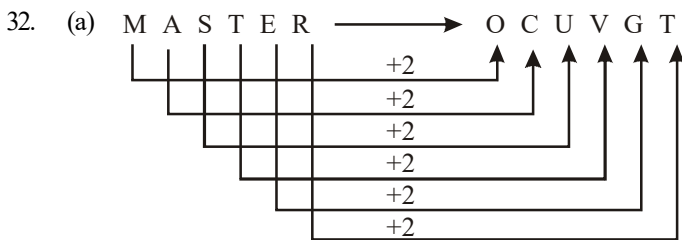
Similarly
LABOUR → NCDQWT
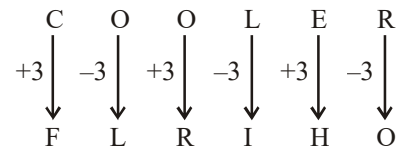
33. (d)
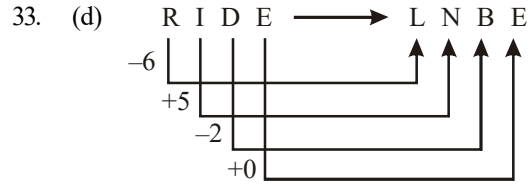
Similarly HELP → BJJP
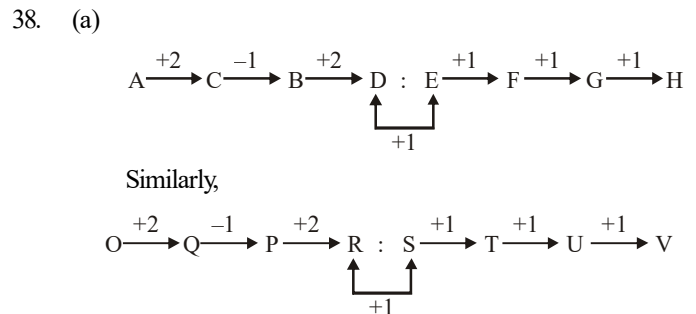
34. (c)
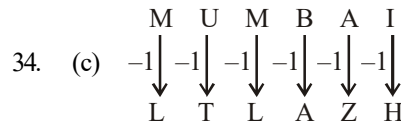
Similarly

35. (b) **RATIONAL : RATNIOLA** **TRIBAL : TRILBA**
    First 3 Remain Same Place TRI
    Then coming IIIrd one LBA ⇒ **TRIBAL**
    Comes in IVth place. Then
    left two took place and last
    if digit comes inter change them.

36. (b)

Similarly,

37. (d) As, Similarly,

$$A \xrightarrow{+7} H \qquad M \xrightarrow{+7} T$$

$$C \xrightarrow{+6} I \qquad O \xrightarrow{+6} U$$

$$E \xrightarrow{+7} L \qquad Q \xrightarrow{+7} X$$

38. (a)

Similarly,

39. (b) The letters are consecutive and written in reverse order.

40. (c) In each set of letters, the 1st and 3rd letters are consecutive.

C J D L : F M G R : : I K J R : L S M T

41. (a) In each group the first three letters are consecutive and they follows the fourth letter.

(ABCD) : (STUR) : : (JKLM) : (UVWX)

42. (c) The second set EGC is formed by simply putting the first letter of CEG at last to form EGC, and so on.

43. (b) Because KLM are assigned No. 11, 12 & 13 from A onwards, this corresponds to PON, which are also numbered 11, 12 and 13 from Z to A in reverse order. Hence NOP will correspond to MLK.

44. (a) The three letters moved 5, 4, and 3 and steps forward respectively.

45. (c) The relationship is $(2x - 4) : x$.

46. (a) 11 : 17 alternate prime number (skipping 13) 19 : 29 alternate prime number (skipping 23)

47. (d) Second term $= $ (First term)^3
∴ Fourth term $= $ (Third term)^3

48. (d) $12 = 3^2 + 3$, $\quad 30 = 5^2 + 5$:
$20 = 4^2 + 4$: $\quad ? = 6^2 + 6$

49. (d) $3 = 2^2 - 1$, $\quad 10 = 3^2 + 1$
$8 = 3^2 - 1$, $\quad ? = 4^2 + 1$

50. (b) 13 and 19 are primes with 17 left out in between.

51. (c) Hematology is the branch of medicine concerned with the study and prevention of diseases related to the blood.
Similarly, phycology is the scientific study of algae.

52. (c) A group of Lions is called a pride.
A group of Cats is called a clowder.

53. (a)
```
M    A    N              W    A    N
↓+3  ↓+3  ↓+3  Similarly, ↓+3  ↓+3  ↓+3
P    D    Q              Z    D    Q
```

54. (b)
```
A      E      F      J
↓+10   ↓+10   ↓+10   ↓10
K      O      P      T
```
Similarly,
```
G      K      L      P
↑–10   ↑–10   ↑–10   ↑–10
Q      U      V      Z
```

55. (a) $2^5 = 32$
$3^5 = 243$

56. (c)
```
D  ×  H              M  ×  Q
↓     ↓   Similarly, ↓     ↓
4  ×  8              13  ×  17
```
Respective place value of letters in English alphabet.
Hence, option (c) in the correct answer.

57. (c) Medicine is given to patient similarly Education is given to student.

58. (c)
```
L    A    M    P
–3↓  –3↓  –3↓  –3↓
I    X    J    M

F    I    S    H
–3↓  –3↓  –3↓  –3↓
C    F    P    E
```
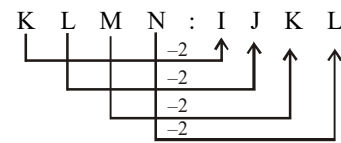
59. (d) As $\quad 20 = 13 \times 2 - 6$
∴ $\quad 28 = 17 \times 2 - 6$

60. (c) As, Fire will burn
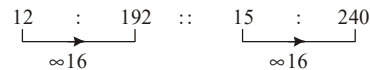Similarly, Ice will freeze.

61. (d) As,

K L M N : I J K L
(−2 arrows)

Similarly,

T U V W : R S T U
(−2 arrows)
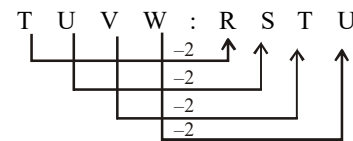
62. (b) As, $(3)^3 = 27$ Similarly, $(4)^3 = 64$.

63. (b)

12 : 192 :: 15 : 240
∞16   ∞16

64. (b) Dirty and Filthy are Similar word like that Shy and timid are similar word.
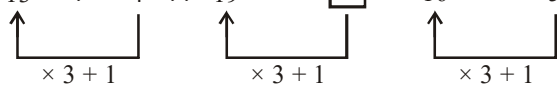
65. (d) Heart function is to circulated blood mix with oxygen into different parts of the body, like that kidney function is excretion of wastes from the body.

66. (d) As winter is a season like that April is a month.

67. (d) China currency is 'Yuan' like that Japan currency is 'Yen'.

68. (c) As, in Graphology, we study about handwriting. Similarly, in Physics, we study about matter.

69. (a) 13 : 4 :: 19 : 6 :: 16 : 5
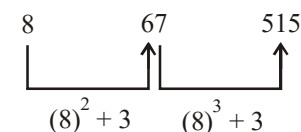× 3 + 1   × 3 + 1   × 3 + 1

70. (a) As, 7 ... 52 ... 346
$(7)^2 + 3$ $\quad (7)^3 + 3$
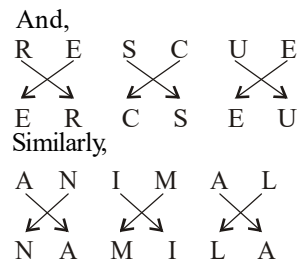Similarly,
8 ... 67 ... 515
$(8)^2 + 3$ $\quad (8)^3 + 3$
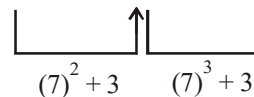
71. (b) As, Nascent is synonyms of young.
Similarly, Adjunct is synonyms of Supportive.

72. (a)

73. (b) Collection of books are kept in Library, so collection of artefacts are kept in museum.

74. (d) $(3, 14, 1) \rightarrow [(3)^3 + (1)^3] \div 14 \rightarrow 2$

    $(4, 36, 2) \rightarrow [(4)^3 + (2)^3] \div 36 \rightarrow 2$

    Similarly,

    $(8, 260, 2) \rightarrow [(8)^3 + (2)^3] \div 260 \rightarrow 2$

75. (b) Phone is used for talking where as on Television we can view picture or used to view pictures.

76. (b) $19 : 324 :: 25 : 576 :: 9 : \boxed{64}$

    As

    $19 : (19-1)^2 \rightarrow 19 : (18)^2$

    $25 : (25-1)^2 \rightarrow 25 : (24)^2$

    $9 : (9-1)^2 \rightarrow 9 : (8)^2$

77. (a) $(20, 6, 4) \rightarrow [(6)^2 - (4)^2] = 20$

    $(24, 7, 5) \rightarrow [(7)^2 - (5)^2] = 24$

    Similarly,

    $(65, 9, 4) \rightarrow [(9)^2 - (4)^2] = 65$

78. (d) Pattern is that:

    $5 \times 5 = 25$

    $2 \times 5 = 10$

    so, $3 \times 3 = 9$

79. (d) As crowd and dense are synonyms. Similarly, steep is synonyms of slope.

80. (c) $49.85 - 5.31 + 9.97 = ?$

    $\Rightarrow ? = 50 - 5 + 10$

    $\Rightarrow ? = 55$

81. (b) Pattern is that-

    $100 \times 10 = 1000$

    $19 \times 2 = 38$

    Similarly,

    $25 \times 5 = 125$

82. (c) As,

    F R   E N   C H

    R F   N E   H C

And,

    R E   S C   U E

    E R   C S   E U

Similarly,

    A N   I M   A L

    N A   M I   L A

83. (b) Pattern is that-

    $(6 + 14) \times 2 = 40$

    $(10 + 14) \times 2 = 48$

    Similarly,

    $(5 + 9) \times 2 = 28$

84. (c) Pattern is that

    $6 \rightarrow 6 \times 3 - 2 = 16$

    $10 \rightarrow 10 \times 3 - 2 = 28$

    Similarly,

    $3 \rightarrow 3 \times 3 - 2 = 7$

85. (c) As 'Kidney' is an 'Organ'. Similarly, 'Apple' is a 'Fruit'.

86. (b) Pattern is that-

    $\dfrac{300}{100} - \dfrac{100}{100} = 3 - 1 = 2$

    $\dfrac{88}{11} - \dfrac{66}{11} = 8 - 6 = 2$

    Similarly,

    $\dfrac{44}{11} - \dfrac{22}{11} = 4 - 2 = 2$

87. (b) # :   A   O   O

    $+2 \downarrow$ $-3 \downarrow$ $+2 \downarrow$

        C   L   Q

    % :   N   D   K

    $+2 \downarrow$ $-3 \downarrow$ $+2 \downarrow$

        P   A   M

88. (a) $(7, 3, 43) \rightarrow (7)^2 - 3 \times 2 = 43$

    $(5, 2, 21) \rightarrow (5)^2 - (2 \times 2) = 21$

    Similarly,

    $(11, 5, 111) = (11)^2 - (5 \times 2) = 111$

2 Classification

What is classification?

You must have in your mind that what does classification mean. In fact, in classification we take out an element out of some given elements and the element to be taken out is different from the rest of the elements in terms of common properties, shapes, sizes, types, nature, colours, traits etc. In this way the rest of the elements form a group and the element that has been taken out is not the member of that group as this single element does not possesses the common quality to be possessed by rest of the elements. For example, if we compare the elements like, lion, cow, tiger, panther, bear and wolf then we find that this is a group of animals. How do we classify them? To understand this let us see the presentation given below :-

Lion	Cow	Tiger	Panther	Bear	Wolf
↓	↓	↓	↓	↓	↓
Wild animal	Domestic animal	Wild animal	Wild animal	Wild animal	Wild animal

Here, if we want to separate out one animal then definitely that animal will be cow because cow is the only animal in the group which is a domestic animal. Rest of the animals (Lion, Tiger, Panther, Bear and Wolf) are wild animals. Hence rest of the animals (Lion, Tiger, Panther, Bear & Wolf) form a group of wild animals separating out the domestic animal (Cow).

Similarly, out of 6 letters A, M, N, S, P & Q, we will take out A and form a group of 5 letters M, N, S, P & Q because out of given six letters only A is a vowel while rest of the letters form a group of consonants.

Types of classification :

(1) **Letter/meaningless word based classification**

(2) **Meaningful word based classification**

(3) **Digit based classification**

(4) **General knowledge based classification**

Now we will discuss types of classifications one by one:-

(1) **Letter/meaningless word based classification :-** Such classifications are based on letters of English alphabet. So many groups of letters are given in the question in which one group is different from remaining groups and hence the different group will be our answer.

EXAMPLE **1.** Find the odd word out of the following options.

(a) **PQT**
(b) **UVY**
(c) **DEH**
(d) **IJN**

Sol. (a) P Q Ⓡ Ⓢ T (b) U V Ⓦ Ⓧ Y

→ 2 letter gap   → 2 letter gap

(c) D E Ⓕ Ⓖ H (d) I J Ⓚ Ⓛ Ⓜ N

→ 2 letter gap   → 3 letter gap

As it is clear that except option (d) all the other options have 2 letters gap between 2nd and third letters and the 1st two letters are in consecutive order. While in case of option (d) 1st two letters are in consecutive order but there is 3 letters gap between 2nd and third letter separating it out of the remaining group of the letters. Hence option (d) is the correct option.

EXAMPLE **2. Following are given four options and out of them 3 form a group in terms of some similarity. Find out the option which does not fit into that group.**

(a) **LMNO – ONML**
(b) **PQRS – SRQP**
(c) **IJKL – LKJI**
(d) **UVWX – VUXW**

Sol. (a) |L||M||N||O| → |O||N||M||L|
             |1||2||3||4| |4||3||2||1|

(b) |P||Q||R||S| → |S||R||Q||P|
    |1||2||3||4| |4||3||2||1|

(c) |I||J||K||L| → |L||K||J||I|
    |1||2||3||4| |4||3||2||1|

(d) |U||V||W||X| → |V||U||X||W|
    |1||2||3||4| |2||1||4||3|

Above presentation makes it clear that (d) does not fit into the groups.

2. **Meaningful words based classification :-** In such type of classification we have to take odd word out of the given group of meaningful words.

EXAMPLE **3. Which one of the following words is not a part of the group formed by remaining words. The remaining words form the group on the basis of certain similarity.**

(a) **Name**
(b) **Game**
(c) **Fame**
(d) **Shame**

Sol. (d) is the correct answer because this is the only word which has 5 letters while the remaining words have 4 letters and hence options (a), (b), & (c) form a group separating out option (d).

EXAMPLE ✎ ▶ **4. Out of the 4 words given below, three have certain thing common and so they form a group. Find out the word which one is not a part of that group.**

　　(a) **Slim**　　　　　　(b) **Trims**
　　(c) **Greets**　　　　　(d) **Grid**

Sol.: Option (c) is the correct option because this is the only option which has two vowels while the other options have only one vowel. Let us see the following presentation:-

(a)　Sl ⓘ ms
　　　↓
　　1 vowel

(b)　Tr ⓘ ms
　　　↓
　　1 vowel

(c)　Gr ⓔⓔ ts
　　　↓
　　2 vowels

(d)　Gr ⓘ d
　　　↓
　　1 vowel

3. Digit based classification :- In such type of classifications digits or numbers are given to find out one number that is not a part of the group of remaining numbers.

EXAMPLE ✎ ▶ **5. Find the odd number out.**

　　(a) **122**　　　　　　(b) **128**
　　(c) **199**　　　　　　(d) **200**

Sol.: Option (c) is the correct option because this is an odd number while all the other options are even numbers.

EXERCISE

DIRECTIONS (Qs. 1 - 44) : *Find the odd word/letters/number pair from the given alternatives.*

1. (a) Rice　　　　　　(b) Wheat
　　(c) Barley　　　　(d) Mustard
2. (a) Arrow　　　　　(b) Sword
　　(c) Knife　　　　　(d) Axe
3. (a) Listen　　　　　(b) Feel
　　(c) Think　　　　　(d) Sing
4. (a) Volume　　　　(b) Size
　　(c) Large　　　　　(d) Shape
5. (a) Anxiety　　　　(b) Worry
　　(c) Inhibition　　(d) Curiosity
6. (a) Seismograph　(b) Earthquake
　　(c) Cyclone　　　(d) Tsunami
7. (a) Nephrology　　(b) Entomology
　　(c) Astrology　　(d) Mycology
8. (a) Mathematics　(b) Geometry
　　(c) Algebra　　　(d) Trigonometry
9. (a) Advice　　　　(b) Counsel
　　(c) Direct　　　　(d) Suggest
10. (a) Petrol　　　　(b) Acetone
　　(c) Mercury　　　(d) Kerosene
11. (a) Room　　　　(b) Chamber
　　(c) Veranda　　　(d) Cabin
12. (a) ISLOJ　　　　(b) LUOQM
　　(c) AKDGB　　　(d) FPILG
13. (a) HJN　　　　　(b) JLP
　　(c) PRU　　　　　(d) QSW
14. (a) PORM　　　　(b) WVYT
　　(c) KJMH　　　　(d) FEJC
15. (a) GJOV　　　　(b) BFJQ
　　(c) ILQX　　　　(d) RUZG
16. (a) BFJM　　　　(b) DEFG
　　(c) JMPS　　　　(d) PRTV
17. (a) CXGT　　　　(b) EVBY
　　(c) DXEY　　　　(d) AZDW
18. (a) AZMN　　　　(b) BYEF
　　(c) CXUV　　　　(d) IRDV
19. (a) EBD　　　　　(b) IFH
　　(c) QMO　　　　　(d) YVX
20. (a) CADGE　　　(b) JHKNL
　　(c) ECFGI　　　(d) XVYBZ
21. (a) AI　　　　　　(b) IU
　　(c) EO　　　　　　(d) OU
22. (a) PUT　　　　　(b) OWL
　　(c) END　　　　　(d) ARM
23. (a) 126　　　　　(b) 122
　　(c) 65　　　　　　(d) 50
24. (a) 226　　　　　(b) 290
　　(c) 360　　　　　(d) 170
25. (a) 20, 10　　　　(b) 30, 18
　　(c) 45, 27　　　　(d) 60, 30
26. (a) 7, 26　　　　　(b) 8, 30
　　(c) 10, 35　　　　(d) 15, 30
27. (a) 1/2, 1/8　　　(b) 1/3, 1/12
　　(c) 9, 3　　　　　(d) 24, 6
28. (a) 3, 5　　　　　(b) 7, 9
　　(c) 11, 13　　　　(d) 17, 19
29. (a) 7 : 18　　　　(b) 9 : 26
　　(c) 11 : 36　　　　(d) 13 : 42
30. (a) 80 – 9　　　　(b) 64 – 8
　　(c) 36 – 6　　　　(d) 7 – 49
31. (a) 72, 60　　　　(b) 108, 96
　　(c) 84, 72　　　　(d) 60, 36
32. (a) 12, 8　　　　　(b) 6, 16
　　(c) 18, 6　　　　　(d) 32, 3
33. (a) 62 - 37　　　　(b) 74 - 40
　　(c) 85 - 60　　　　(d) 103 - 78
34. (a) 81 : 243　　　(b) 16 : 64
　　(c) 64 : 192　　　(d) 25 : 75
35. (a) 52, 142　　　(b) 54, 126
　　(c) 56, 168　　　(d) 58, 184

36. (a) 14, 9   (b) 17, 8
    (c) 42, 3   (d) 21, 6

37. (a) 117, 13   (b) 162, 18
    (c) 171, 19   (d) 304, 16

38. (a) Fervent   (b) Enthusiastic
    (c) Apathetic   (d) Ardent

39. (a) FAA   (b) OFF
    (c) ATT   (d) EPP

40. (a) 117 – 143   (b) 142 – 156
    (c) 64 – 78   (d) 103 – 169

41. (a) Radio   (b) Television
    (c) Transistor   (d) Tube

42. (a) Pathology   (b) Geology
    (c) Cardiology   (d) Radiology

43. (a) 24   (b) 49
    (c) 80   (d) 15

44. (a) 121   (b) 324
    (c) 523   (d) 729

DIRECTIONS (Qs. 45 - 50): *In the following Six Questions, find the old word/ number/ letters / number pair from the given alternatives.* **[SSC CGL, Tier-I-2015]**

45. (a) Morning   (b) Noon
    (c) Evening   (d) Night

46. (a) Liberty   (b) Society
    (c) Equality   (d) Fraternity

47. (a) DWFU   (b) EVHS
    (c) HSKP   (d) KQNN

48. (a) CBEF   (b) EDGH
    (c) IHKL   (d) GFHJ

49. (a) 4025   (b) 7202
    (c) 6023   (d) 5061

50. (a) 96 : 80   (b) 64 : 48
    (c) 80 : 60   (d) 104 : 78

51. Choose the correct alternative to complete the series.
Lily, Daisy, Datura, ?
    (a) Sun Flower   (b) Hibiscus
    (c) Marigold   (d) Jasmine

DIRECTIONS (Qs. 52 -54) : *Find the odd word/letter/ number form the given alternative.*

[SSC CGL, Tier-I-2016]

52. (a) Rival   (b) Opponent
    (c) Foe   (d) Ally

53. (a) POCG   (b) KLIZ
    (c) BUDX   (d) FQMV

54. (a) 36 - 48   (b) 56 - 44
    (c) 78 - 66   (d) 33 - 64

55. In the following question, select the odd word from the given alternatives. **[SSC CGL, Tier-I-2017]**
    (a) Ludo   (b) Chess   (c) Polo   (d) Carrom

56. In the following question, select the odd letters from the given alternatives. **[SSC CGL, Tier-I-2017]**
    (a) DGJ   (b) KNQ   (c) RUX   (d) ILN

57. In the following question, select the odd number from the given alternatives. **[SSC CGL, Tier-I-2017]**
    (a) 31   (b) 37   (c) 43   (d) 49

58. Three of the following four number-pairs are alike in a certain way and one is different. Pick the odd pair out. **[SSC CGL, Tier-I-2018]**
    (a) 4 : 27   (b) 49 : 218   (c) 16 : 125   (d) 9 : 64

59. Three of the following four letter-clusters are alike in a certain way and one is different. Pick the odd one out **[SSC CGL, Tier-I-2018]**
    (a) RVZDG   (b) DHLPT
    (c) UYCGK   (d) AEIMQ

60. Three of the following four words are alike in a certain way and one is different. Pick the odd word out. **[SSC CGL, Tier-I-2018]**
    (a) Indigo   (b) Silver   (c) Orange   (d) Violet

61. Three of the following four words are alike in a certain way and one is different. Pick the odd word out. **[SSC CGL, Tier-I-2018]**
    (a) Big   (b) Expensive
    (c) Costly   (d) Valuable

62. Three of the following four number-pairs are alike in a certain way and one is different. Pick the odd one out. **[SSC CGL, Tier-I-2018]**
    (a) 56 : 49   (b) 64 : 54   (c) 104 : 91   (d) 32 : 28

63. Three of the following four letter - clusters are alike in a certain way and one is different. Pick the odd one out. **[SSC CGL, Tier-I-2018]**
    (a) POWZ   (b) KNQT
    (c) FILO   (d) QTWZ

64. Four words have been given, out of which three are alike in some manner and one is different. Select the word that is different. **[SSC CGL, Tier-I-2020]**
    (a) Mumbai   (b) Raipur
    (c) Ranchi   (d) Ahmedabad

65. Select the number-pair in which the two numbers share a different relationship from that shared by the two numbers in the rest of the number-pairs. **[SSC CGL, Tier-I-2020]**
    (a) (215, 338)   (b) (11, 134)
    (c) (169, 292)   (d) (178, 308)

66. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the letter-cluster that is different. **[SSC CGL, Tier-I-2020]**
    (a) TYDI   (b) HMRW
    (c) ZEJP   (d) NSXC

67. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the letter-cluster that is different. **[SSC CGL, Tier-I-2021]**
    (a) SPK   (b) JGT
    (c) PMN   (d) GTQ

68. Three of the following four latter-clusters are alike in a certain way and one is different. Pick the odd one out.

[SSC CGL, Tier-I-2022]

(a) HGF   (b) RQP

(c) UVW   (d) LKJ

69. Select the odd group of numbers.

[SSC CGL, Tier-I-2022]

(a) $(7-343-331)$ (b) $(6-216-206)$

(c) $(5-125-115)$ (d) $(4-64-54)$

70. Three of the following four number-pairs are alike in a certain way and thus form a group. Which is the pair that does not belong to that group? **[SSC CGL, Tier-II-2022]**

(a) 11-89   (b) 13-117

(c) 15-135   (d) 18-162

71. Three of the following word pairs are alike in some manner and hence form a group. Which word pair does not belong to that group? **[SSC CGL, Tier-II-2022]** (The words must be considered as meaningful English words and must not be grouped based on the number of letters/number of consonants/vowels in the word.)

(a) Travel : Tour   (b) Look : See

(c) Carry : Lift   (d) Close : Distant

72. Three of the following four triads are alike in a certain way as they are formed by performing same mathematical operations among themselves and thus form a group. Which triad does NOT belong to that group?

[SSC CGL, Tier-I-2023]

(a) $6:12:215$ (b) $5:10:126$

(c) $9:18:728$ (d) $2:4:7$

73. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the odd letter-cluster. **[SSC CGL, Tier-I-2023]**

(a) HNSW   (b) PTXA

(c) DJOS   (d) BHMQ

74. Three of the following words are alike in some manner and hence form a group. Which word does NOT belong to that group? (The words must be considered as meaningful English words and must not be grouped based on the number of letters/number of consonants/vowels in the word) **[SSC CGL, Tier-II-2023]**

(a) Clarinet   (b) Flute

(c) Piano   (d) Piccolo

75. The second number in the given number-pairs is obtained by performing certain mathematical operation(s) on the first number. The same operation(s) is/are followed in all the number-pairs except one. Find that odd number-pair.

[SSC CGL, Tier-II-2023]

(a) $10:33$ (b) $2:9$

(c) $8:29$ (d) $6:21$

ANSWER KEY

1	(d)	9	(c)	17	(c)	25	(a)	33	(b)	41	(d)	49	(d)	57	(d)	65	(d)	73	(b)
2	(a)	10	(c)	18	(d)	26	(b)	34	(b)	42	(b)	50	(a)	58	(b)	66	(c)	74	(c)
3	(d)	11	(c)	19	(c)	27	(c)	35	(c)	43	(b)	51	(d)	59	(a)	67	(d)	75	(c)
4	(c)	12	(b)	20	(c)	28	(b)	36	(c)	44	(c)	52	(d)	60	(b)	68	(c)		
5	(d)	13	(c)	21	(d)	29	(c)	37	(d)	45	(d)	53	(d)	61	(a)	69	(a)		
6	(a)	14	(d)	22	(a)	30	(a)	38	(c)	46	(b)	54	(d)	62	(b)	70	(a)		
7	(c)	15	(b)	23	(a)	31	(d)	39	(a)	47	(a)	55	(c)	63	(a)	71	(d)		
8	(a)	16	(a)	24	(c)	32	(c)	40	(a)	48	(d)	56	(d)	64	(d)	72	(b)		

Hints & Explanations

1. (d) Except 'mustard' each belongs to the same category, viz food grains. Mustard is an oilseed.

2. (a) All others are held in the hand and not shot out.

3. (d) All others are the features of sense organes.

4. (c) 'Large' is an adjective whereas others are noun.

5. (d) All others are negative.

6. (a) Except (a) all are natural disaster. Seismograph is an instrument scientists use to measure earthquakes.

7. (c) All except Astrology are concerned with biology.

8. (a) MATHEMATICS is STREAM/Main Category. Others are substream or sub category of Mathematics.

9. (c) Direct is different from the other three words. Direct means 'to give a formal order or command.'

10. (c) Except Mercury all others are organic compounds. Mercury is a metal.

11. (c) Except veranda, all others are surrounded by four walls.

12. (b)

I S   L   O   J   L U   O   Q   M
+10 −7 +3 −5   +9 −6 +2 −4

A K   D   G   B   F P   I   L   G
+10 −7 +3 −5   +10 −7 +3 −5

13. (c) In all other groups, the third letter is four steps ahead of the second letter which, in turn, is two steps ahead of the first letter.

14. (d) In all other groups, first and third letters as well as fourth and second letters are alternate.

15. (b) In all other groups, the second, third and fourth letters are respectively three, five and seven steps ahead of the first, second and third letters respectively.

16. (a) In all other groups, the number of letters skipped between adjacent letters is uniform.

17. (c) In all other groups, the first and second letters occupy the same positions from the beginning and end of the alphabet, and so do the third and fourth letters.

18. (d)

(a) A   Z M   N   (b) B   Y E   F
    opposite   +1   opposite   +1

(c) C   X U   V   (d) I   R D   V
    opposite   +1   opposite   +19

Hence, 'IRDV' does not belong to that group.

19. (c) The pattern is –

E   B   D   I   F   H
  +3 +2   +3 +2 ;

Q   M   O   Y   V   X
  +4 +2 ;   +3 +2

Hence, QMO is the odd one out.

20. (c) $C \xrightarrow{-2} A \xrightarrow{+3} D \xrightarrow{+3} G \xrightarrow{-2} E$

So that, ECFGI is out.

21. (d) VOWELS   Only "OU" Comes in

A I O U Ⓔ   a sequence of cronical order.

22. (a) "PUT" Not start with vowel among these options.

23. (a) The rest are based on the expression $x^2 + 1$.
But $126 = 11^2 + 5$.

24. (c) After a close look you will get that except 360 each number is one more than square of a natural number, i.e., $226 = 15^2 + 1$; 290
$= 17^2 + 1$; $170 = 13^2 + 1$;
$122 = 11^2 + 1$

25. (a) 20, 10 are not divisible by 3. Other will.

26. (b) only 8, 30 are divisible by 2.

27. (c) 9, 3 $\boxed{3:1}$

Others are $\boxed{4:1}$

28. (b) 7, 9   Here 9 is not Prime No.
Others pairs has all Prime Nos.

29. (c) In all other paris, 2nd number = (1st number × 4) – 10.

30. (a) In all other pairs, one number is the square of the other.

31. (d) The difference in all the other cases is 12.

32. (c) The product in all other cases is 96.

33. (b) In all other pairs of numbers the difference between the two number is of 25.

$62 - 37 = 25$ But, $74 - 40 = \boxed{34}$

$85 - 60 = 25$

$103 - 78 = 25$

34. (b) The second numbers is three times the first number except in the case of option (b)

$81 \times 3 = 243$

$64 \times 3 = 192$

$25 \times 3 = 75$

But, $16 \times 4 = 64$

35. (c) $\Rightarrow$ $52 \Rightarrow 5 + 2 = 7$

$142 \Rightarrow 1 + 4 + 2 = 7$

$\Rightarrow$ $54 \Rightarrow 5 + 4 = 9$

$126 \Rightarrow 1 + 2 + 6 = 9$

$\Rightarrow$ $56 \Rightarrow 5 + 6 = 11 \Rightarrow 1 + 1 = \boxed{2}$

$168 \Rightarrow 1 + 6 + 8 = 15 \Rightarrow 1 + 5 = \boxed{6}$

$\Rightarrow$ $58 \Rightarrow 5 + 8 = 13 \Rightarrow 1 + 3 = 4$

$\Rightarrow$ $184 \Rightarrow 1 + 8 + 4 = 13$

$\Rightarrow 1 + 3 = 4$

36. (c) 42 is a multiple of 3.

37. (d) $13 \times 9 = 117$

$18 \times 9 = 162$

$19 \times 9 = 171$

But, $16 \times 9 = 144$ not 304

38. (c) Fervent: having or displaying a passionate intensity.

Enthusiastic: having or showing intense and eager enoyment.
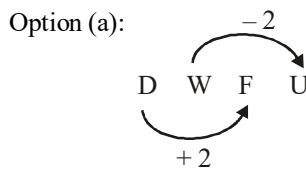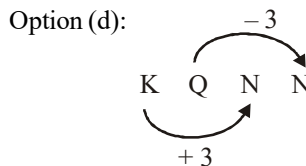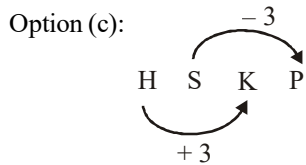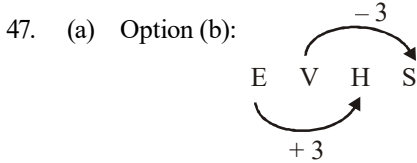
Ardent: very enthusiastic or passionate

Apathetic: showing or feeling no interest, enthusiasm or concern.

Hence, apathetic is odd one out.

39. (a) In all other groups, a vowel is followed by a consonant repeated twice.

40. (a) Only 117-143 is divisible by 13. Therefore, it is odd one out.

41. (d) Radio, Transistor and television are the way of broadcasting. Hence, tube is odd one out.

42. (b) As all terms given in question are medical terms except geology.

43. (b) $24 = 5^2 - 1$ $80 = 9^2 - 1$
$49 = 7^2 - 0$ $15 = 4^2 - 1$

44. (c) All are squares except (c).

45. (d) Except (d), all others belong to the period of before sunset.

46. (b) Except (b), all others are principles of society.

47. (a) Option (b):

E V H S

with -3 and $+3$

Option (c):

H S K P

with -3 and $+3$

Option (d):

K Q N N

with -3 and $+3$

Option (a):

D W F U

with -2 and $+2$

Hence, option (a) is the group of odd letters.

48. (d) Option (a): $C \xrightarrow{-1} B \xrightarrow{+3} E \xrightarrow{+1} F$

Option (b): $E \xrightarrow{-1} D \xrightarrow{+3} G \xrightarrow{+1} H$

Option (c): $I \xrightarrow{-1} H \xrightarrow{+3} K \xrightarrow{+1} L$

Option (d): $G \xrightarrow{-1} F \xrightarrow{+2} H \xrightarrow{+2} J$

Hence, option (d) is the odd group of letters.

49. (d) $4 + 0 + 2 + 5 = 11$
$6 + 0 + 2 + 3 = 11$
$7 + 2 + 0 + 2 = 11$
$5 + 0 + 6 + 1 = 12$
Hence, (d) is the odd one out.

50. (a) $64 : 48$
(8×8) (8×6)

$80 : 60$
(10×8) (10×6)

$104 : 78$
(13×8) (13×6)

Hence, option (a) is odd one out

51. (d) Lily, Daisy, Datura all have outer part white and inner part yellow.
Jasmine also has outer part white and inner part yellow.

52. (d) Ally is Antonym of Remaining three.

53. (d) Only FQMV is without any Vowel

54. (d) Difference between $36 - 48$, $56 - 44$ and $78 - 64$ is 12 where as $33 - 64$ is different.

55. (c) Except polo, All others are played by sitting.

56. (d)

D G J   K N Q   R U X

with +3, +3, +3, +3, +3, +3

But

I L N

with +3, +2
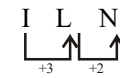
So, option (d) is correct answer.

57. (d) Except 49, All are prime numbers

58. (b)

$4 : 27$; $16 : 125$; $9 : 64$
$(2)^2$ $(3)^3$ $(4)^2$ $(5)^3$ $(3)^2$ $(4)^3$

$49 : 218$
$(7)^2$ $(6)^3 + 2$

Hence, 49 : 218 is odd.

59. (a)

R V Z D G ; D H L P T
with +4, +4, +4, +3, and +4, +4, +4, +4

U Y C G K ; A E I M Q
with +4, +4, +4, +4, and +4, +4, +4, +4
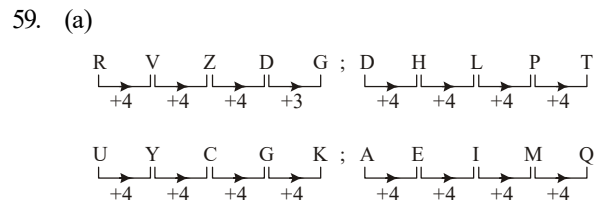
60. (b) Indigo, Orange and Voilet are three colours of rainbow, silver is not a colour seen in rainbow.

61. (a) Expensive, costly and valuable are related to the price of any object but 'big' is related to size of any object.

62. (b) every pair is in the form of 8n : 7n
In (b) 54 is not in the form of 7n.

63. (a)

P O W Z ; K N Q T
with -1, +8, +3, and +3, +3, +3

F I L O ; Q T W Z
with +3, +3, +3, and +3, +3, +3
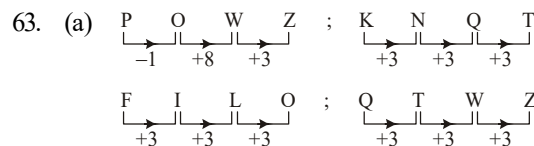
64. (d) All three are capitals of states except Ahmedabad.
Ahmedabad is a city of Gujarat.

65. (d) $338 - 215 = 123$
$134 - 11 = 123$
$292 - 169 = 123$
$308 - 178 = 130$

66. (c) $T \xrightarrow{+5} Y \xrightarrow{+5} D \xrightarrow{+5} I$

$H \xrightarrow{+5} M \xrightarrow{+5} R \xrightarrow{+5} W$

$Z \xrightarrow{+5} E \xrightarrow{+5} J \xrightarrow{+6} P$

$N \xrightarrow{+5} S \xrightarrow{+5} X \xrightarrow{+5} C$

67. (d) Let two letters in every letter – clusters is opposite to each other, according to the English alphabets, except options (d).

68. (c) $\underset{(8)}{H} \xrightarrow{(-1)} \underset{(7)}{G} \xrightarrow{(-1)} \underset{(6)}{F}$

$\underset{(18)}{R} \xrightarrow{(-1)} \underset{(17)}{Q} \xrightarrow{(-1)} \underset{(16)}{P}$

$\underset{(21)}{U} \xrightarrow{(+1)} \underset{(22)}{V} \xrightarrow{(+1)} \underset{(23)}{W}$ (odd)

$\underset{(12)}{L} \xrightarrow{(-1)} \underset{(11)}{K} \xrightarrow{(-1)} \underset{(10)}{J}$

69. (a) $(7 - 343 - 331) \to (7)^3 = 343 - 10$

$= 333$ (odd)

$(6 - 216 - 206) \to (6)^3 = 216 - 10$

$\to 206$

$(5 - 125 - 115) \to (5)^3 = 125 - 10$

$\to 115$

$(4 - 64 - 54) \to (4)^3 = 64 - 10 \to 54$

"10" is subtracted from the cube of Ist number of given options, but in option (a) "12" is subtracted rather than 10.

70. (a) Pattern is that:

$11 \times 9 = 99 \neq 89$

$13 \times 9 = 117$

$15 \times 9 = 135$

$18 \times 9 = 162$

71. (d) Close and distant are opposite words and rest pairs are synonym words.

72. (b) $6 \to 6 \times 2 = 12$ and $6^3 - 1 = 215$

$5 \to 5 \times 2 = 10$ and $5^3 + 1 = 126$

$9 \to 9 \times 2 = 18$ and $9^3 - 1 = 728$

$2 \to 2 \times 2 = 4$ and $2^3 - 1 = 7$

73. (b)

$H \xrightarrow{+6} N \xrightarrow{+5} S \xrightarrow{+4} W$

$P \xrightarrow{+4} T \xrightarrow{+4} X \xrightarrow{+3} A$ (Odd one)

$D \xrightarrow{+6} J \xrightarrow{+5} O \xrightarrow{+4} S$

$B \xrightarrow{+6} H \xrightarrow{+5} M \xrightarrow{+4} Q$

74. (c) Except piano, rest are family of woodwind instruments.

75. (c) The pattern is-

$10 \to 10 \times 3 + 3 = 33$

$2 \to 2 \times 3 + 3 = 9$

$8 \to 8 \times 3 + 3 = 27 \neq 29$

$6 \to 6 \times 3 + 3 = 21$
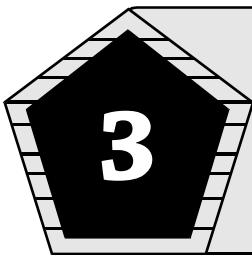
3 Series

A series is a sequence of numbers/alphabetical letters or both which follow a particular rule. Each element of series is called 'term'. We have to analyse the pattern and find the missing term or next term to continue the pattern.

Types of series are explained in the following chart :

```
                          SERIES
    ┌──────┬──────────┬──────────┬────────┬────────┬──────────────┐
 Number   Alphabet  Alpha-numeric  Mixed   Letter   Correspondence
 series    series      series     series   series      series
```

Number series	Alphabet series	Alpha-numeric series	Mixed series	Letter series	Correspondence series
A series that is made by only number or digit	A series that is made by only alphabetic letters	A series in which both alphabets and numbers are used	A series which is created by the combination of two or more than two series	A series of letters, which follow a certain pattern, is given with four / five times blank spaces in between. The order of missing letters is correct answer.	A series consists of three sequence with three different elements (for ex. capital letters, numbers and small letters). An element of each sequence is correspond to the element of other sequence on the basis of the similarity in position.

1. Ascending series
2. Descending series
3. Oscillating series

In number series, relationship between the terms is of any kind. For example.

(1) Consecutive even numbers
(2) Consecutive odd numbers
(3) Consecutive prime numbers
(4) Square of numbers
(5) Cubes of numbers
(6) Square root of numbers
(7) Omission of certain number of letter in any consecutive order
(8) Addition /subtraction/ multiplication/ division by some number (For Ex. A.P & G.P) or any other relation.

TYPES OF QUESTIONS :

(I) Complete the series
(II) Find Missing number of the series
(III) Find Wrong number of the series

EXAMPLES ON NUMBER SERIES

(I) Complete the series

EXAMPLE ✎ ▷ 1. Which of the following is the next term of series given below ?

4, 6, 9, 13, ...

(a) 17   (b) 18   (c) 19   (d) 20

Sol. (b) 4 6 9 13 [18] Correct answer
             +2 +3 +4 +5

EXAMPLE ✎ ▷ 2. Choose the next term of series given below.

64, 32, 16, 8, ?

(a) 0   (b) 1   (c) 2   (d) 4

Sol. (d) Each number is half of its previous number.

(II) To find the missing number of series :

EXAMPLE ✎ ▷ 3. What will come in place of question mark in the following series?

79, 87, ? , 89, 83

(a) 80,   (b) 81   (c) 82   (d) 88

Sol. (b) 79 87 [81] 89 83
                +8 −6 +8 −6

EXAMPLE ✎ ▷ 4. What will come in place of question mark in the following series?

37, 41, ? , 47, 53

(a) 42   (b) 43   (c) 46   (d) 44

Sol. (b) Consecutive prime numbers.

EXAMPLE **5.** What will come in place of question mark in the following series?

21, 34, ? , 89, 144

(a) 43   (b) 55   (c) 64   (d) 71

Sol. (b) Each number is the sum of the two preceding numbers.

21 + 34 = 55

34 + 55 = 89

55 + 89 = 144

(III) To find the wrong term in the series :

EXAMPLE **6.** Find the wrong term in the series

3, 8, 15, 24, 34, 48, 63.
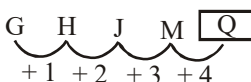
(a) 15   (b) 15   (c) 34   (d) 63

Sol. (c) $2^2 - 1, 3^2 - 1, 4^2 - 1, 5^2 - 1, 6^2 - 1$

EXAMPLES ON ALPHABETIC SERIES

EXAMPLE **7.** What will come in place of question mark in the following series?

G, H, J, M, ?

(a) R   (b) S   (c) Q   (d) P

Sol. (c) G   H   J   M   Q
$$+1 \quad +2 \quad +3 \quad +4$$
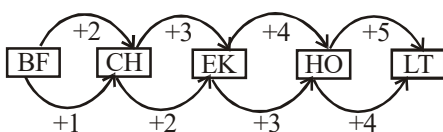
EXAMPLE **8.** What will come in place of question mark in the following series?

BF, CH, ? , HO, LT

(a) FG   (b) EK   (c) CE   (d) F J

Sol. (b)
$$+2 \quad +3 \quad +4 \quad +5$$
BF   CH   EK   HO   LT
$$+1 \quad +2 \quad +3 \quad +4$$

EXAMPLES ON ALPHA-NUMERIC SERIES

EXAMPLE **9.** What will come in place of question mark in the following series?

K 1, M 3, P 5, T 7, ?

(a) Y 9   (b) Y 11   (c) V 9   (d) V 11

Sol. (a) Alphabets follow the sequence
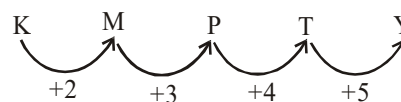
K   M   P   T   Y
$$+2 \quad +3 \quad +4 \quad +5$$
And numbers are increasing by 2

EXAMPLES ON MIXED SERIES

EXAMPLE **10.** Complete the series

Z, L, X, J, V, H, T, F, __, __

(a) D, R   (b) R, D   (c) D, D   (d) R,R

Sol. (b) The given sequence consists of two series

(i) Z, X, V, T, __

(ii) L, J, H, F, __. Both consisting of alternate letters in the reverse order.

∴ Next term of (i) series = R, and

Next term of (ii) series = D

EXAMPLE **11.** What will come in place of question mark in the following series?

7, 5, 26, 17, 63, 37, 124, 65, ?, ?

(a) 101, 215   (b) 101, 101

(c) 215, 101   (d) 215, 215

Sol. (c) The given series consists of two series

(i) 7, 26, 63, 124 .....

(ii) 5, 17, 37, 65 .....

In the first series,

$7 = 2^3 - 1, 26 = 3^3 - 1, 63 = 4^3 - 1$,

$124 = 5^3 - 1, \therefore 6^3 - 1 = 215$

and in the second series.

$5 = 2^2 + 1, 17 = 4^2 + 1,$

$37 = 6^2 + 1, 65 = 8^2 + 1,$

∴ $10^2 + 1 = 101$

EXAMPLES ON LETTER SERIES

EXAMPLE **12.** Which sequence of letters when placed at the blanks one after another will complete the given letter series?

b a a b – a b a – b b a – –

(a) bbaa   (b) aaaa   (c) abab   (d) baba

Sol. (d) b a a b <u>b</u> a / b a <u>a</u> b b a / <u>b</u> <u>a</u>.

EXERCISE

1. BDF, CFI, DHL, ?
   (a) CJM (b) EIM (c) EJO (d) EMI

2. FAG, GAF, HAI, IAH, _____
   (a) JAK (b) HAK (c) JAI (d) HAL

3. D I L Q T Y B G ?
   (a) H (b) I (c) J (d) P

4. BC FG JK __ RS VW
   (a) LM (b) OP (c) QR (d) NO

5. BYA, CXB, ?, EVD :
   (a) DVE (b) DCW (c) DXB (d) DWC

6. LXF, MTJ, NPN, OLR, ?
   (a) PHV (b) PIU (c) PKX (d) PJW

7. YANWY, DFMBD, IKNGI, NPMLN, (?), XZMVX
   (a) RUMSR (b) SUNQS
   (c) UWNSU (d) VUMTV

8. PEXKW, RFWMU, TGVOS, VHUQQ, XITSO, (?)
   (a) ZJSUM (b) YJSUZ
   (c) ZKSVJ (d) JZSTN

9. AYBZC, DWEXF, GUHVI, JSKTL, (?), POQPR
   (a) MQDRN (b) QMONR
   (c) MQNRO (d) NQMOR

10. ZYYZR, ABVUN, (?), BCUTM, XWABT, CDTSL
    (a) YXZAS (b) ZYABT
    (c) XWYZR (d) YXZAB

11. deb, ijg, nol, (?), xyv
    (a) rsp (b) stp (c) rsq (d) stq

12. A, Q, C, L, F, H, J, ?
    (a) E (b) B (c) F (d) D

13. BYCXW, CXDWV, EVFUT, GTHSR, ?
    (a) IRJQP (b) KPOLN
    (c) KPLON (d) JOKPO

14. FOX, GP?, HQZ
    (a) Y (b) Z (c) T (d) W

15. QPO, SRQ, UTS, WVU, (?)
    (a) XVZ (b) YXW (c) ZYA (d) VWX

16. YEB, WFD, UHG, SKI, (?)
    (a) QOL (b) TOL (c) QGL (d) QNL

17. AZ, CX, FU, (?)
    (a) IR (b) JQ (c) IV (d) KP

18. ABD, DGK, HMS, MTB, SBL, ?
    (a) ZAB (b) XKW (c) ZKU (d) ZKW

19. OTE, PUF, QVG, RWH, ?
    (a) SYJ (b) TXI (c) SXJ (d) SXI

20. BEH, KNQ, TWZ, ?
    (a) IJL (b) CFI (c) BDF (d) ADG

21. MHZ, NIW, OKT, PNQ,?
    (a) RRN (b) QRN (c) QRM (d) QQN

22. A, CD, GHI, ?, UVWXY
    (a) LMNO (b) MNO
    (c) NOPQ (d) MNOP

23. CAT, FDW, IGZ, ?
    (a) KJA (b) KTC (c) LHD (d) LJC

24. 1, 3, 8, 19, 42, 89, ?
    (a) 108 (b) 184 (c) 167 (d) 97

25. 5, 16, 51, 158, ... ?
    (a) 1452 (b) 483 (c) 481 (d) 1454

26. 8, 13, 10, 15, 12, 17, 14 ... ?
    (a) 19 (b) 22 (c) 16 (d) 20

27. 3, 15, 4, 16, 5, 17, 6, ?, 7
    (a) 12 (b) 18 (c) 15 (d) 13

28. 240, ... 120, 40, 10, 2
    (a) 480 (b) 240 (c) 220 (d) 120

29. 6.25, 9, 12.25, 16, 20.25, 25, 30.25, ?
    (a) 36 (b) 32 (c) 28.25 (d) 40.25

30. 0, 7, 26, ?, 124, 215
    (a) 51 (b) 37 (c) 63 (d) 16

31. 2 12 36 80 150 ?
    (a) 194 (b) 210 (c) 252 (d) 258

32. 1, 8, 9, 64, 25, 216, ?, ?
    (a) 49, 64 (b) 343, 64
    (c) 49, 512 (d) 343, 512

33. 3, 13, 53, 213 — ?
    (a) 553 (b) 653 (c) 753 (d) 853

34. 4, 16, 36,?, 100, 144
    (a) 72 (b) 68 (c) 81 (d) 64

35. 8, 15, 28, 53, ...?
    (a) 98 (b) 106 (c) 100 (d) 102

36. ba _ b _ aab _ a _ b
    (a) abaa (b) abba (c) baab (d) babb

37. c _ bba _ cab _ ac _ ab _ ac
     (a) abcbc   (b) acbcb   (c) babcc   (d) bcacb
38. abca _ bcaab _ ca _ bbc _ a
     (a) ccaa   (b) bbaa   (c) abac   (d) abba
39. b _ b _ bb _ bbb _ bb _ b
     (a) bbbbba   (b) bbaabb
     (c) ababab   (d) aabaab
40. aa – bb – aa – abbbb – a
     (a) bbaa   (b) aabb   (c) baba   (d) abab
41. – aba – cabc – dcba – bab – a
     (a) abdca   (b) bcadc   (c) abcdd   (d) cbdaa

DIRECTIONS (Qs. 42-46): *In each of the following number series, a wrong number is given. Find out that number.*

42. 10 15   24 35   54 75   100
     (a) 35   (b) 75   (c) 24   (d) 15
43. 1   3   4   7   11 18   27 47
     (a) 27   (b) 11   (c) 18   (d) 7
44. 3   2   3   6   12 37.5   115.5
     (a) 37.5 (b) 12   (c) 6   (d) 2
45. 2   8   32 148   765 4626   32431
     (a) 765   (b) 148   (c) 8   (d) 32
46. 2   3   11 38   102 229   443
     (a) 11   (b) 229   (c) 120   (d) 38

DIRECTIONS (Qs. 47-48): *In the following two Questions, which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?*

[SSC CGL, Tier-I-2015]

47. ccbab _ caa _ bccc _ a _
     (a) babb   (b) bbba
     (c) baab   (d) babc
48. a _ _ _dba _ _bcad_ _ _da _ _ _cd
     (a) bccdbcab   (b) abcddcba
     (c) cbcddcba   (d) aabbccdd

DIRECTIONS (Qs. 49-50): *In the following two Questions, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.*

[SSC CGL, Tier-I-2015]

49. 4, 6, 10, 16, 24, ?
     (a) 28   (b) 30   (c) 34   (d) 40
50. 3, 5, 9, 17, _____?_____ K ,
     (a) 26   (b) 65   (c) 33   (d) 42
51. A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.
     CAT , DBT , ECT , ?   **[SSC CGL, Tier-I-2016]**
     (a) DCT   (b) FDT   (c) FCT   (d) FAT
52. A series is given , with one term missing . Choose the correct alternative from the given ones that will complete the series.

53. 5 , 11 , 24 , 51 , 106 , ____ ?   **[SSC CGL, Tier-I-2016]**
     (a) 122   (b) 217   (c) 120   (d) 153
54. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
     BT, DR, FP, ?   **[SSC CGL, Tier-I-2017]**
     (a) HO   (b) HN   (c) NH   (d) OH
55. In the following question, select the missing number from the given series.   **[SSC CGL, Tier-I-2017]**
     3, 8, 5, 27, 8, 64, 12, 125, 17, ?
     (a) 216   (b) 361   (c) 625   (d) 441
56. Select the term that will come next in the following series.
     114, 127, 153, 192, 244, ?   **[SSC CGL, Tier-I-2018]**
     (a) 309   (b) 361   (c) 344   (d) 284
57. Select the term that will come next in the following series.
     DGJ, BDN, ZAR, XXV, ?   **[SSC CGL, Tier-I-2018]**
     (a) VUZ   (b) UUZ
     (c) VUY   (d) VTZ
58. Select the term that will come next in the following series.
     M, E, P, H, S, ?, V, N   **[SSC CGL, Tier-I-2018]**
     (a) U   (b) K   (c) M   (d) J
59. Select the term that will come next in the following series.
     3, 4, 5, 6, 9, 10, 11, 12, 15, ?   **[SSC CGL, Tier-I-2018]**
     (a) 16   (b) 17   (c) 14   (d) 18
60. Which letter will replace the question mark (?) in the following series?   **[SSC CGL, Tier-I-2018]**
     A, B, E, J, Q, ?
     (a) A   (b) Y   (c) X   (d) Z
61. Select the option that is related to the third number in the same way as the second number is related to the first number.
     12 : 68 :: 21 : ?   **[SSC CGL, Tier-I-2018]**
     (a) 49   (b) 117   (c) 119   (d) 79
62. Select the option that will come next in the following series.
     BOP, DPN, FQL, HRJ, ?   **[SSC CGL, Tier-I-2018]**
     (a) JSH   (b) JSI   (c) ISH   (d) ITI
63. Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.
     [SSC CGL, Tier-I-2020]
     UTMD, QXIH, MBEL, IFAP, ?
     (a) EKXT   (b) EKWU
     (c) EJWT   (d) DJVT
64. Select the number from among the given options that can replace the question mark (?) in the following series.
     27, 30, 37, 50, ?, 98   **[SSC CGL, Tier-I-2020]**
     (a) 78   (b) 69   (c) 82   (d) 62
65. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.   **[SSC CGL, Tier-I-2020]**
     Q _ A D _ R _ K A D P _ Q K A _ P R Q K _ D _ R
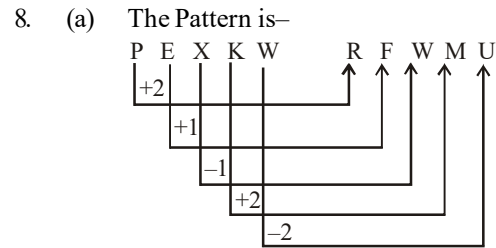   (a) K, P, Q, R, D, A, P   (b) K, P, Q, R, D, A, Q
     (c) K, P, R, Q, D, A, P   (d) K, P, Q, R, A, D, P

65. Select the number from among the given options that can replace the question mark (?) in the following series.
237, 196, 155, 114, ? **[SSC CGL, Tier-I-2021]**
(a) 47 (b) 98
(c) 73 (d) 64

66. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series. **[SSC CGL, Tier-I-2021]**
_ Z _ C _ L Z _ C _ L _ X _ V L _ _ _ V
(a) L, X, V, X, V, Z, C, Z, X, C
(b) X, Z, L, X, V, Z, C, C, C, L
(c) L, X, C, X, V, C, Z, C, Z, C
(d) L, X, V, V, X, C, C, X, Z, Z

67. Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.
TSF, RPJ, PMN, NJR, ? **[SSC CGL, Tier-I-2021]**
(a) JFV (b) KGU
(c) LGN (d) LGV

68. Select the number from among the given options that can replace the question mark (?) in the following series.
5, 18, 70, 278, ? **[SSC CGL, Tier-I-2021]**
(a) 328 (b) 298
(c) 1110 (d) 592

69. Which of the following numbers will replace the question mark (?) in the given series? **[SSC CGL, Tier-I-2022]**
382, 322, 272, 232, 202, ?
(a) 168 (b) 150
(c) 182 (d) 132

70. Which of the following letter-clusters will replace the question mark (?) in the given series?
PK, GT, XC, OL, ? **[SSC CGL, Tier-I-2022]**
(a) GT (b) HS
(c) EV (d) FU

71. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series. **[SSC CGL, Tier-I-2022]**
NMRQ, NDZG, NUHW, NLPM, ?
(a) NQRC
(b) NCXC
(c) NHMH
(d) MQRQ

72. What should come in place of the question mark (?) in the given series? **[SSC CGL, Tier-II-2022]**
18, 74, 298, 1194, 4778, ?
(a) 19112 (b) 19114
(c) 19110 (d) 19116

73. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series. **[SSC CGL, Tier-II-2022]**
A_DF GI_L MOP_ _UVX YA_D
(a) CJQRB
(b) BJQRB
(c) CJRSB
(d) BJRSB

74. Select the combination of letters that when sequentially placed in the blanks of the given series will make it logically complete. **[SSC CGL, Tier-II-2022]**
P R _ Y _ _ R A _ Z P _ A _ Z
(a) APYZZY
(b) APYZRY
(c) AZYZRY
(d) AZPYRY

75. Which number would replace the question mark (?) in the following number series? **[SSC CGL, Tier-I-2023]**
131, 132, 141, 166, 215, ?, 417
(a) 296 (b) 286
(c) 300 (d) 294

76. Select the option that represents the letters that, when placed from left to right in the blanks below, will complete the letter series. **[SSC CGL, Tier-I-2023]**
_ _ D C D _ _ C D _ D _
(a) D C C D C C
(b) D C D C D D
(c) C D C D C C
(d) C D D C C D

77. Which of the following letter-clusters will replace the question mark (?) in the given series? **[SSC CGL, Tier-I-2023]**
BFZV, EIXT, HLVR, ?, NRRN
(a) KNTQ (b) KNSP
(c) KNTP (d) KOTP

78. Select the number from among the given options that can replace the question mark (?) in the following series.
189, 532, 316, ?, 377 **[SSC CGL, Tier-II-2023]**
(a) 384 (b) 291
(c) 441 (d) 405

79. Select the option that represents the letters that, when placed from left to right in the following blanks, will complete the letter-series. **[SSC CGL, Tier-II-2023]**
_ V J R W B _ _ R W B V L _ _ B V _ _ W
(a) B V K R W M R
(b) A V K R W M R
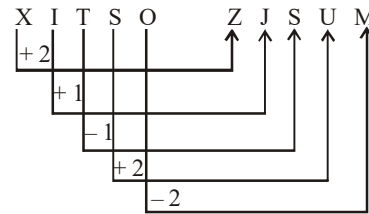(c) A W K R X N R
(d) B W K R W M R

ANSWER KEY

| 1	(c)	9	(c)	17	(b)	25	(c)	33	(d)	41	(a)	49	(c)	57	(b)	65	(c)	73	(c)
2	(a)	10	(a)	18	(d)	26	(a)	34	(d)	42	(a)	50	(c)	58	(a)	66	(a)	74	(d)
3	(c)	11	(d)	19	(d)	27	(b)	35	(d)	43	(a)	51	(b)	59	(d)	67	(d)	75	(a)
4	(d)	12	(a)	20	(b)	28	(b)	36	(b)	44	(b)	52	(b)	60	(c)	68	(c)	76	(a)
5	(d)	13	(a)	21	(b)	29	(a)	37	(b)	45	(d)	53	(b)	61	(a)	69	(c)	77	(d)
6	(a)	14	(a)	22	(d)	30	(c)	38	(c)	46	(b)	54	(a)	62	(c)	70	(d)	78	(c)
7	(b)	15	(b)	23	(d)	31	(c)	39	(c)	47	(a)	55	(a)	63	(b)	71	(b)	79	(a)
8	(a)	16	(a)	24	(b)	32	(c)	40	(a)	48	(a)	56	(a)	64	(a)	72	(b)		

Hints & Explanations

1. (c) $B \xrightarrow{+2} D \xrightarrow{+2} F$, $C \xrightarrow{+3} F \xrightarrow{+3} I$, $D \xrightarrow{+4} H \xrightarrow{+4} L$,
   $E \xrightarrow{+5} J \xrightarrow{+5} O$

2. (a) $F \xrightarrow{+1} G \xrightarrow{+1} H \xrightarrow{+1} I \xrightarrow{+1} J$

   $A \xrightarrow{+0} A \xrightarrow{+0} A \xrightarrow{+0} A \xrightarrow{+0} A$

   $G \xrightarrow{-1} F \xrightarrow{+3} I \xrightarrow{-1} H \xrightarrow{+3} K$

3. (c) After D, 4 letters are skipped and I follows after which 2 letters are skipped Trend flows alternatively :
   D(EFGH) I (JK) L(MNOP) Q (RS) T(UVWX) Y(ZA) B(CDEF) G(HI) J.

4. (d) $BC \xrightarrow{+3} FG \xrightarrow{+3} JK \xrightarrow{+3} \boxed{NO} \xrightarrow{+3} RS$

5. (d) Sequence is :

   1st letter $\rightarrow$ B C $\boxed{D}$ E (next letter from B to E)
   2nd letter $\rightarrow$ Y X $\boxed{W}$ V (reverse from V to Y)
   3rd letter $\rightarrow$ A B $\boxed{C}$ D (next letter from A to D)

6. (a) Ist Letter:

   $L \xrightarrow{+1} M \xrightarrow{+1} N \xrightarrow{+1} O \xrightarrow{+1} \boxed{P}$

   2nd Letter :

   $X \xrightarrow{-4} T \xrightarrow{-4} P \xrightarrow{-4} L \xrightarrow{-4} \boxed{H}$

   3rd Letter :

   $F \xrightarrow{+4} J \xrightarrow{+4} N \xrightarrow{+4} R \xrightarrow{+4} \boxed{V}$

7. (b) Sequence is :

   $Y \xrightarrow{+5} D \xrightarrow{+5} I \xrightarrow{+5} N \xrightarrow{+5} \circledS \xrightarrow{+5} X$

   $A \xrightarrow{+5} F \xrightarrow{+5} K \xrightarrow{+5} P \xrightarrow{+5} \circledU \xrightarrow{+5} Z$

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

   $W \xrightarrow{+5} B \xrightarrow{+5} G \xrightarrow{+5} L \xrightarrow{+5} \circledQ \xrightarrow{+5} V$

   $Y \xrightarrow{+5} D \xrightarrow{+5} I \xrightarrow{+5} N \xrightarrow{+5} \circledS \xrightarrow{+5} X$

8. (a) The Pattern is–

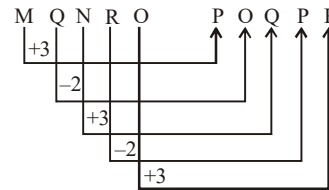   Therefore,

9. (c) The Pattern is–
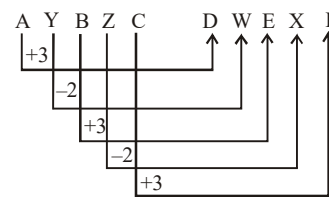
   Therefore,

10. (a) This is two alternate series.

    $Z \xrightarrow{-1} Y \xrightarrow{-1} X$

    $Y \xrightarrow{-1} X \xrightarrow{-1} W$

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

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

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

11. **(d)** Sequence is :

$$d \xrightarrow{+5} i \xrightarrow{+5} n \xrightarrow{+5} \circled{s} \xrightarrow{+5} x$$

$$e \xrightarrow{+5} j \xrightarrow{+5} o \xrightarrow{+5} \circled{t} \xrightarrow{+5} y$$

$$b \xrightarrow{+5} g \xrightarrow{+5} l \xrightarrow{+5} \circled{q} \xrightarrow{+5} v$$

12. **(a)**

A   Q   C   L   F   H   J   E
(−5, −4, −3 above; +2, +3, +4 below)

13. **(a)**

$$B \xrightarrow{+1} C \xrightarrow{+2} E \xrightarrow{+2} G \xrightarrow{+2} I$$
$$Y \xrightarrow{-1} X \xrightarrow{-2} V \xrightarrow{-2} T \xrightarrow{-2} R$$
$$C \xrightarrow{+1} D \xrightarrow{+2} F \xrightarrow{+2} H \xrightarrow{+2} J$$
$$X \xrightarrow{-1} W \xrightarrow{-2} U \xrightarrow{-2} S \xrightarrow{-2} Q$$
$$W \xrightarrow{-1} V \xrightarrow{-2} T \xrightarrow{-2} R \xrightarrow{-2} P$$

14. **(a)**

F O X   G P Y   H Q Z
(+1, +1 patterns above and below)

15. **(b)** Each letter moves +2 steps.

16. **(a)** 1st letter moves −2 steps each time.
2nd letter moves +1, +2, +3, +4 steps respectively.
3rd letter moves +2, +3, steps alternatively.

17. **(b)** 1st letter moves +2, +3 and +4 steps respectively.
2nd letter moves −2, −3 and −4 steps respectively.

18. **(d)**

A B D   D G K   H M S   M T B   S B L   Z K W
(+5, +6, +7, +8, +9 above; +3, +4, +5, +6, +7 and +7, +8, +9, +10, +11 below)

19. **(d)** The first letters of the terms are in alphabetical order, and so are the second and third letters.

20. **(b)** All the letters of each term are moved nine steps forward to obtain the corresponding letters of the next term.

21. **(b)** The first letters of the terms are consecutive letters. The third letter of each term is moved three steps backward to obtain the third letter of the successive term. The middle letters of the first, second, third and fourth terms are moved one, two, three, and four steps forward respectively to obtain the middle letter of the successive terms.

22 **(d)** The number of letters in the terms goes on increasing by one at each step. Also, there is a gap of one letter between the last letter of the first term and first letter of the second term and a gap of two letters between the last letter of the second term and first letter of

the third term. So, the first letter of the required term would be four steps ahead of the last letter of the third term.

23. **(d)**

C A T   F D W   I G Z   L J C
(+3 patterns above and below)

24. **(b)** Each of the numbers is doubled and 1, 2, 3, 4, 5, 6 is added in turn, so $89 \times 2 + 6 = 184$.

25. **(c)** $16 = 5 \times 3 + 1$, $51 = 16 \times 3 + 3$,
$158 = 51 \times 3 + 5$
∴ Next term $= 158 \times 3 + 7 = 481$

26. **(a)** There are two atterate series-

I series : $8 \xrightarrow{+2} 10 \xrightarrow{+2} 12 \xrightarrow{+2} 14$

II series : $13 \xrightarrow{+2} 15 \xrightarrow{+2} 17 \xrightarrow{+2} \circled{19}$

27. **(b)** There are two alternate series.
1st series : 3, 4, 5, 6, 7 .... and so on.
2nd series : 15, 16, 17,18, 19 .... and so on.

28. **(b)** Ratios of two consecutive terms are 1, 1/2, 1/3, 1/4, and 1/5 respectively.

29. **(a)** There are two alternate series
Series I- 6.25, 12.25, 20.25, 30.25 (sequence is +6, +8, +10)
Series II- 9, 16, 25, 36, (sequence is +7, +9, +11)

6.25   9   12.25   16   20.25   25   30.25   36
(+6, +8, +10 above; +7, +9, +11 below)

30. **(c)** Clearly the given series is $1^3 - 1$, $2^3 - 1$, $3^3 - 1$, $4^3 - 1$, $5^3 - 1$, $6^3 - 1$.
So, the missing number is $4^3 - 1 = 63$.

31. **(c)** $1^3 + 1^2 = 2$, $2^3 + 2^2 = 12$, $3^3 + 3^2 = 36$ and so on ∴ $6^3 + 6^2 = 252$

32. **(c)** The odd terms are squares of the numbers 1,3,5,.... while the even terms are cubes of the numbers 2,4,6,....

33. **(d)** The difference in consecutive nos. follows the sequence, 10, 40, 160.
So the next difference $= 160 \times 4 = 640$
Therefore number $= 213 + 640 = 853$.

34. **(d)** The numbers in the series are square of 2,4,6 ...,10,12 Therefore, the missing number is square of 8 i.e. $8^2 = 64$.

35. **(d)** $8 \times 2 - 1 = 15$, $15 \times 2 - 2 = 28$, $28 \times 2 - 3 = 53$,
$53 \times 2 - 4 = 102$

36. **(b)** ba<u>a</u>b/<u>b</u>aab/ba<u>a</u>b

37. **(b)** c<u>a</u>bba<u>c</u>/cab<u>b</u>ac/c<u>a</u>b<u>b</u>ac.

38. **(c)** The series is abc/a<u>a</u>bc/aab<u>b</u>c/a<u>a</u>bb<u>cc</u>/a.

39. **(c)** The series is b<u>a</u>b<u>b</u>/bb<u>ab</u>/bbb<u>a</u>/bbbb.
Thus, in each sequence, 'a' moves one step forward and 'b' takes its place and finally in the fourth sequence, it is eliminated.

40. **(a)** a a <u>b</u> b / b <u>b</u> a a / <u>a</u> a b b / b b <u>a</u> a.

41. **(a)** The series formed is :

a a b a b b c a b c d d c b a c b a b a a

in which the letters equi–distant from the beginning and end are the same.

42. **(a)** The series is +5, +9, +13, +17 .... The difference in successive nos. $9 - 5 = 13 - 9 = 17 - 13 = ... = 4$. Hence, 35 is wrong. It should be 37.

43. **(a)** The sum of the first two nos. is the third no. Hence, 27 is wrong. It should be 29.

44. **(b)** The series is $\times 0.5 + 0.5, \times 1 + 1, \times 1.5 + 1.5$ .... Hence, 12 is wrong. It should be 14.

45. **(d)** The series is $\times 2 + 2^2, \times 3 + 3^2, \times 4 + 4^2, \times 5 + 5^2$ ..... Hence, 32 is wrong. It should be 33.

46. **(b)** The series is $+ 1^3, + 2^3, + 3^3, + 4^3$ ..... Hence, 229 is wrong. It should be 227.

47. **(a)** c c b a/b b c a/a a b c/c c b a/b

48. **(a)** a b c d/b a c d/b c a d/b c d a/a b c d.

49. **(c)**

50. **(c)**

51. **(b)**
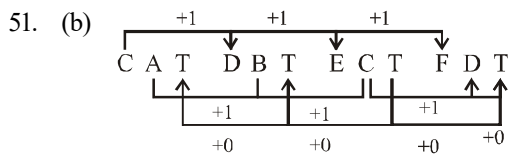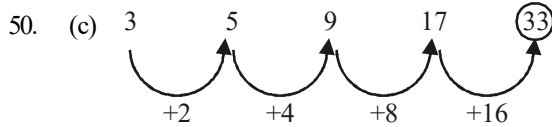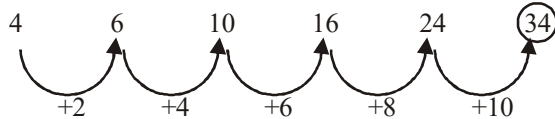
52. **(b)** $5 \times 2 + 1 = 11$
$11 \times 2 + 2 = 24$
$24 \times 2 + 3 = 51$
$51 \times 2 + 4 = 106$
$106 \times 2 + 5 = 217$

53. **(b)**

54. **(a)**
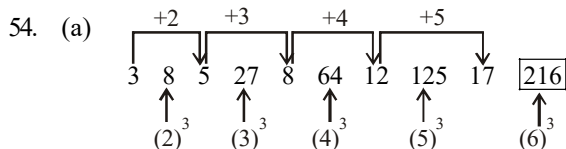
55. **(a)** The series is like this:
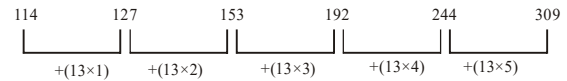
56. **(a)** The series is like this:

57. **(b)**
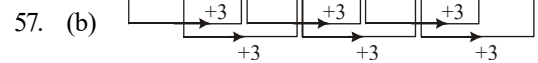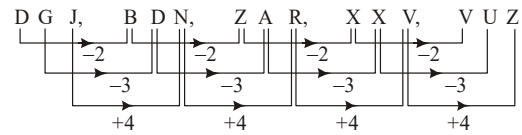
58. **(a)** The series pattern is:

59. **(d)** The series pattern is:

60. **(c)**

61. **(a)**

62. **(c)**

63. **(b)**

64. **(a)** Q K A D P R   Q K A D P R   Q K A D P R   Q K A D P R
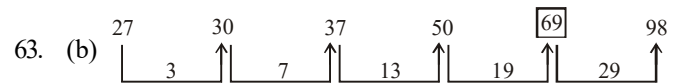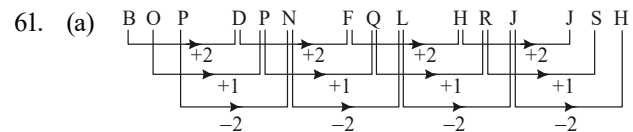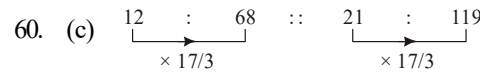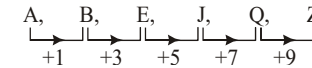
65. **(c)** The pattern of the given series is as :

66. (a)

L Z X C V L Z X C V L Z X C V L Z X C V

67. (d) The pattern of the given series is as :

$$-3 \quad -3 \quad -3 \quad -3$$

T S F R P J P M N N J R L G V

$$-2 \quad -2 \quad -2 \quad -2$$

$$+4 \quad +4 \quad +4 \quad +4$$
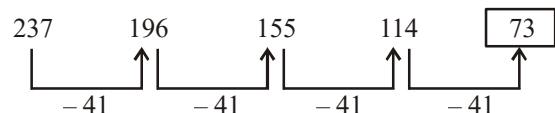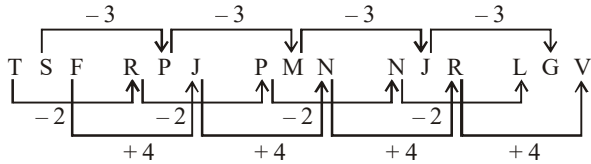
68. (c) The pattern of the given series is as :

$$5 \times 3 + (5-2) = 18$$

$$18 \times 3 + (18-2) = 70$$

$$70 \times 3 + (70-2) = 278$$

$$278 \times 3 + (278-2) = \boxed{1110}$$

69. (c) 382 , 322 , 272 , 232, 202, (182)

(−60) (−50) (−40) (−30) (−20)
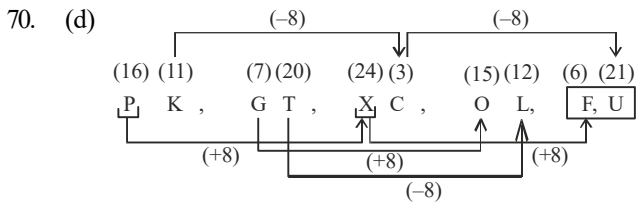
70. (d)

(−8) (−8)

(16) (11) (7) (20) (24) (3) (15) (12) (6) (21)
P K , G T , X C , O L, F, U

(+8) (+8) (+8)

(−8)

71. (b)

(14) N	→	(14) N	→	(14) N	→	(14) N	→	(14) N
(13) M	(−9) →	(4) D	(−9) →	(21) U	(−9) →	(12) L	(−9) →	(3) C
(18) R	(+8) →	(26) Z	(+8) →	(8) H	(+8) →	(16) P	(+8) →	(24) X
(17) Q	(−10) →	(7) G	(−10) →	(23) W	(−10) →	(13) M	(−10) →	(3) C

72. (b) Pattern of the series–

$$18 \to 18 \times 4 + 2 = 74$$

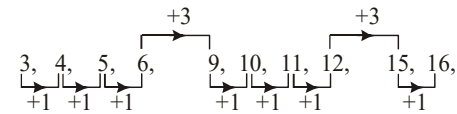$$74 \to 74 \times 4 + 2 = 298$$

$$298 \to 298 \times 4 + 2 = 1194$$

$$1194 \to 1194 \times 4 + 2 = 4778$$

$$4778 \to 4778 \times 4 + 2 = \boxed{19114}$$

73. (c) ACDF/GIJL/MOPR/SUVX/YABD

74. (d) PRAYZ/PRAYZ/PRAYZ

75. (a) Pattern of the series-

131   132   141   166   215   (296)   417

$$+(1)^2 \quad +(3)^2 \quad +(5)^2 \quad +(7)^2 \quad +(9)^2 \quad +(11)^2$$
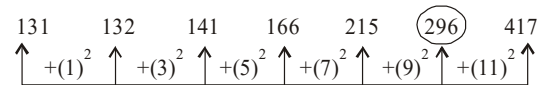
76. (a) D C / D C / D C / D C / D C / D C

77. (d) Pattern of the series-

B $\xrightarrow{+3}$ E $\xrightarrow{+3}$ H $\xrightarrow{+3}$ K $\xrightarrow{+3}$ N
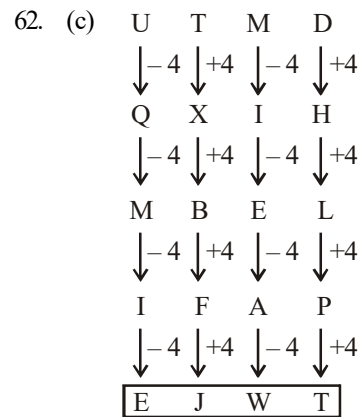
F $\xrightarrow{+3}$ I $\xrightarrow{+3}$ L $\xrightarrow{+3}$ O $\xrightarrow{+3}$ R

Z $\xrightarrow{-2}$ X $\xrightarrow{-2}$ V $\xrightarrow{-2}$ T $\xrightarrow{-2}$ R

V $\xrightarrow{-2}$ T $\xrightarrow{-2}$ R $\xrightarrow{-2}$ P $\xrightarrow{-2}$ N

78. (c) The pattern is-

189   532   316   (441)   377

$$+(7)^3 \quad -(6)^3 \quad +(5)^3 \quad -(4)^3$$
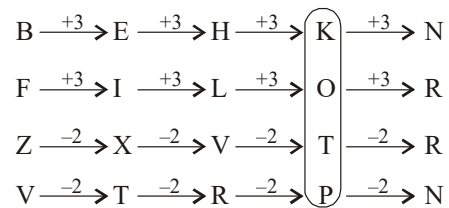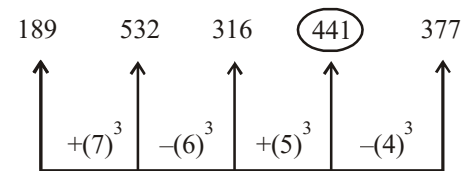
79. (a) B V J R W / B V K R W / B V L R W / B V M R W.

4

Alphabet Test

INTRODUCTION

As we know that English alphabet is a group of English letters, hence the problems based on alphabet are the problems based on English letters.

English Alphabet: English Alphabet has

- 26 letters
- 5 vowels (A, E, I, O, U) and 21 consonants.
- 13 letters in first half i.e. A to M
- 13 letters in second half i.e. N to Z

A	B	C	D	E	F	G	H	I	J	K	L	M
1	2	3	4	5	6	7	8	9	10	11	12	13

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14	15	16	17	18	19	20	21	22	23	24	25	26

- **Linear arrangement of alphabets in reverse order and their corresponding positions:**

Z	Y	X	W	V	U	T	S	R	Q	P	O	N
1	2	3	4	5	6	7	8	9	10	11	12	13

M	L	K	J	I	H	G	F	E	D	C	B	A
14	15	16	17	18	19	20	21	22	23	24	25	26

- **Circular Arrangement:**
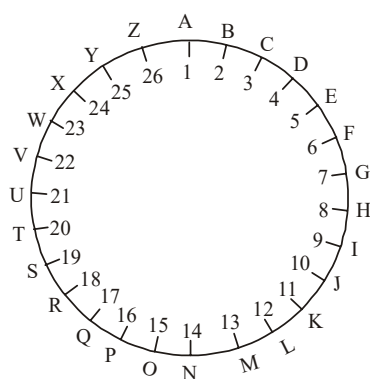
When we have to find out the letters coming before A or after Z, then linear arrangement does not work. In this case, we have to take help of circular arrangement. It is clear from circular arrangement, the letter coming just before A is Z and just after Z is A.

TYPES OF PROBLEMS

1. General series of alphabet
2. Random series of alphabet
3. Problems of word formation
4. Problems of letter gap
5. Finding digits after rearrangement.

General Series of Alphabet

EXAMPLE 1. Which of the following options is seventh to the right of the 13th letter from the left in a forward Alphabet series?

Sol. 1st of all we will write the forward alphabet series as given below:

A B C D E F G H I J K L M
13th letter from left

N O P Q R S T U V W X Y Z
7th letter

From the above series it is clear that M is the 13th letter from left and to the right of M (13th letter from left), T is the 7th letter.

Here, we have solved this problem with a general method. But this type of problem can also be approached through quicker method that will help you save some extra consumed time.

❑ *Shortcut Approach*

(a) If both the directions are same then subtraction of numbers takes place.

(b) If the directions are opposite then addition of numbers takes place.

SHORTCUT METHOD FOR ABOVE EXAMPLE :

Now, for solving the example we apply this rule. As we want to find out the 7th letter to the right of the 13th letter from the left, the directions are opposite and thus shortcut (b) will be applied here. Hence, we add $7 + 13 = 20$. Therefore, the answer will be 20th from left. Also, 20th from left less mean $26 - 20 + 1 = 7$th from right. We can easily see,

∴ 20th letter from left = T

Also 7th letter from right = T

After solving the example, you must have noticed that the above mentioned trick is to calculate the actual position of the required letter before going to search for it.

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
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

As we know that English alphabet has 26 characters, hence, we have $x = 26$.

Now suppose, we have to find out the position of K in the above given series counting from right to left.

Position of 'K' in the English alphabet from left to right is 11. Thus $m = 11$

∴ Position of K in the above given series from right to left would be $(26 + 1 – 11) = 16$

1. How to find the number of letters in the middle of two letters?

Four situations can be created under these type of problems.

1. ⟶···?···⟵　　　2. ⟶···?···⟶

3. ⟵···?···⟵　　　4. ⟶···?···⟵

Let us understand through the following examples.

EXAMPLE **2. How many letters are there between 10th letter from left and 6th letter from right in the English Alphabets?**

Shortcut Sol. Total number of letters in the English Alphabets
= 26

```
                    |10 letters|
From left 10th                  6th   From right
```
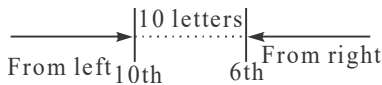
Required number of letters
= 26 – (10 + 6) = 10 letters

EXAMPLE **3. How many letters are there between 18th letter from left and 7th letter from left in the English Alphabets?**

Shortcut Sol. Total number of letters in the English Alphabet = 26

```
              From left
From left 7th    12 letters    18th
```
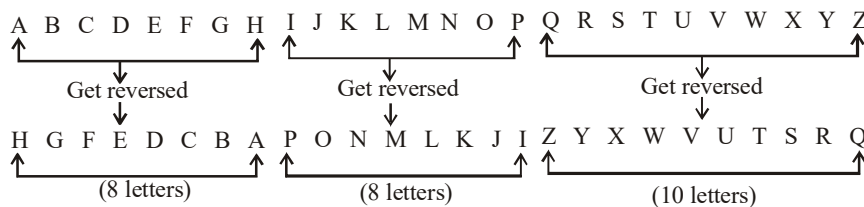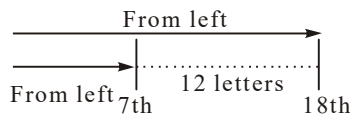
mth element to be counted from left to right of a series of x characters is equal to $(x + 1 – m)$th element to be counted from right to left of that series. This rule can be better illustrated by an example which is given below:

Let us take the forward order alphabet series,

Required number of letters

= 18 – 7 – 1 = 10 letters

2. How to solve problems when letters are dropped or deleted at regular intervals?

EXAMPLE **4. If every 3rd letter from left to right of English alphabet is deleted, then what would be the 6th letter from left in the new series obtained?**

Sol. General method:

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

Here, deleted letters have been encircled and we find the new series as given below:

A	B	D	E	G	H	J	K	M
1	2	3	4	5	6	7	8	9

N	P	Q	S	T	V	W	Y	Z
10	11	12	13	14	15	16	17	18

It is clear, that 6th letter from left in the new series is H.

3. How to solve problems based on the backward (reversed) alphabet series?

While solving problems based on general series of alphabet, we come across the various cases. In some cases we see that whole alphabet series is reversed but in some other cases 1st half of the series is reversed, or second half of the series is reversed or many segments of the alphabet series are reversed.

Let us take a case when a forward order alphabet series get reversed in three segments. In 1st segment 8 letters get reversed; in 2nd segment the next 8 letters get reversed and in the 3rd segment the remaining 10 letters get reversed. Just see the presentation given below:

```
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
      Get reversed     Get reversed          Get reversed
H G F E D C B A   P O N M L K J I   Z Y X W V U T S R Q
      (8 letters)      (8 letters)          (10 letters)
```

Now if you are asked to find out the 4th letter from left in the new obtained series, then through general method, we simply do counting from left in the new series and find out our required answer as 'E' because 'E' is at 4th position from left in the new obtained series. But while solving such type of problems, we have to do some time consuming formalities like (a) writing the original series (b) writing and reversing the letters of original series as per the question says and (c) counting them to get the required answer. Such time consuming processes can be avoided if we go through "**Remember**" and solve the question with shortcut approach.

❑ **Shortcut Approach**

It is clear that 4th letter from left in the new obtained series falls into first segment which has 8 letters. Hence, 4th letter in the new obtained series = $(8 + 1 - 4) = 5$th letter from the left in the original series. As we know that exact position of 5th letter from left in the original alphabet series is the position of E. Hence, E is our required answer.

If we have to find out 18th letter from left in the new obtained series, then that will be $16 + (10 + 1 - 2) = 25$th letter from left in the original alphabet series (why?) which is Y.

In fact, while finding out 18th letter, we can easily see that 18th letter is the 2nd letter of 3rd segment and hence it will be not affected by 1st two segments having 8 letters each. In other words to find out 18th letter in the new obtained series, we have to find out the 2nd letter in the 3rd segment. This is the reason we find out the 2nd letter in the 3rd segment and then add the 16 letters of 1st two segment to get the 18th letter in the new obtained series. From this, we find that 18th letter from left in the new obtained series is the 25th letter from left in the original series. As 25th letter from left in the original series is Y. So, (Y) will be our required answer.

Readers are advised to practice such type of problems as you much as possible and after a certain time will notice that you have got a skill to solve such problems in a few seconds and that too, without the use of pen and paper.

4. How to solve if positions of letters are interchanged?

There is no any rule for such type of problems. Only the hard practice can given you a skill to solve such questions in a quick time.

EXAMPLE ✏ **5. If A and C interchange their places, B and D interchange their places, F and H interchange their places and so on, then which letter will be 5th to the left of Q?**

Sol. As per the question the interchanges take place as follows:

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
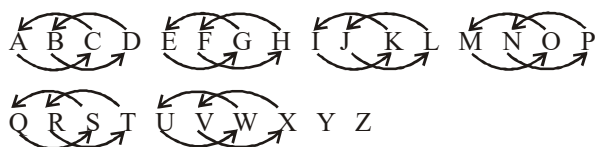
Here we can see that Q interchanges with S. Then to left of Q, the 5th letter would be P because P interchanges with N.

5. How to find the Middle Letter?

❑ **Shortcut Approach**

Case I : Remember that if mth and nth letter from the left in the English alphabet are given then

Middle letter = $\left(\dfrac{m+n}{2}\right)$ th letter from the left.

EXAMPLE ✏ **6. Which letter will be midway between 8th letter from the left and 16th letter from the left in the English alphabet?**

Sol. Here, $m = 8$ and $n = 16$

then middle letter = $\dfrac{8+16}{2} = \dfrac{24}{2}$

= 12th letter from left in the alphabet = L

❑ **Shortcut Approach**

Case II: Remember that if mth and nth letter from the right in the English alphabet are given then

Middle letter

$= \left(\dfrac{m+n}{2}\right)$ th letter from right

$= \left[26 + 1 - \left(\dfrac{m+n}{2}\right)\right] = \left[27 - \left(\dfrac{m+n}{2}\right)\right]$ th

letter from the left in the English alphabet.

EXAMPLE ✏ **7. Which letter will be midway between 8th letter from the right and 16th letter from the right in the English alphabet.**

Sol. Middle letter $= \left[27 - \left(\dfrac{8+16}{2}\right)\right]$ th letter from left in the alphabet.

or middle letter = $(27 - 12) = 15$th letter from left = 0

Note : *In case I and case II (m + n) must be divisible by 2.*

❑ **Shortcut Approach**

Case III : Remember that if the mth letter from the left and the nth letter from the right are given then middle letter

$= \left[\dfrac{(m-n)+27}{2}\right]$ th letter from the left in the alphabet.

EXAMPLE ✏ **8. Which letter will be midway between 8th letter from the left and 15th letter from the right?**

Sol. Here, $m = 8$ and $n = 15$

Then middle letter $= \left[\dfrac{(8-15)+27}{2}\right] = \left[\dfrac{20}{2}\right] = 10$th

letter from left in the English alphabet = J.

Note : *In case III, (m − n) + 27 must be divisible by 2.*

2. Random Series of Alphabet

This series is not in the proper sequence and letters take their position in the series in jumbled manner. Further, there is also a possibility that all the 26 letters of English alphabet are not available in the series. Even same letters may be repeated in the series.

EXAMPLE 9. **How many letters in the following series are immediately preceded by B but not immediately followed by D?**
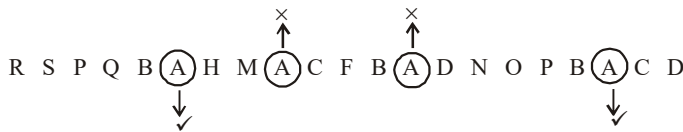**R S P Q B A H M A C F B A D N O P B A C D.**
Sol.

R S P Q B Ⓐ H M Ⓐ C F B Ⓐ D N O P B Ⓐ C D

∴ Only the two times A fulfill the given condition and those A have been marked with the correct sign (✓). Those not fulfilling the condition have been marked with the cross sign (×). ∴ Required answer is 2.

3. Problems on Word Formation

In such problems, a word is given and you have to find out the number of words to be formed out of some letters drawn from that particular word.

EXAMPLE 10. **How many meaningful words can be formed from the 3ʳᵈ, 4ᵗʰ, 6ᵗʰ and 8ᵗʰ letter of the word 'CONTROVERSIAL'?**

Sol.   C O Ⓝ Ⓣ R Ⓞ V Ⓔ R S I A L
                  3ʳᵈ 4th   6th   8th
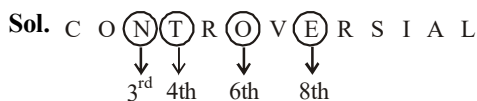
Now, from letters N, T, O and E, two words 'NOTE' and 'TONE' can be formed.

4. Problems of Letter Gap

Case I:

EXAMPLE 11. **How many pairs of letters are there in the word 'DREAMLAND' which have as many letters between them as in the English alphabet?**

Sol. Here, we are asked to solve problem according to English alphabet. In this case we have to count both ways. It does mean that we have to count from left to right and from right to left. Let us see the following presentation:
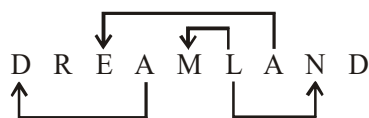
D R E A M L A N D

The above presentation makes it clear that the required pairs of letters are 4. (Pairs: DA, EA, ML and LN)

Case II:

EXAMPLE 12. **How many pairs of letters are there in the word 'DREAMLAND' which have the same number of letters between them as in the English alphabet in the same sequence.**

Sol. Here, we are asked to solve problems according to the alphabetical sequence. It does mean that we have to do counting only from left to right. Let us, see the following presentation:

D R E A M L A N D

The above presentation makes it clear that the required pair of letters is only 1 (Pair: LN)

5. Finding Digits After Rearrangement

In this type of problems, a specified order or pattern is used to rearrange the positions of digits of the number. Then, either the number of those digits is found out whose positions remain unchanged after rearrangement or the digit at particular place from left or right of the number is to be found out.

EXAMPLE (Direction (Qs. 13-17): Following questions are based on the five three-digit numbers given below:

713   361   458   932   724

13. **If the positions of the first and the third digits are interchanged in each of these numbers, then which of these will be an even number.**

Sol. According to the question,

Original Numbers : 7 1 3   3 6 1   4 5 8   9 3 2   7 2 4

New Arrangement : 3 1 7   1 6 3   8 5 4   2 3 9   4 2 7
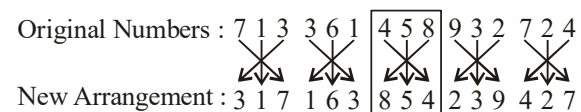
So, here only one number is even i.e., 854.

14. **What is the difference between the sum of the three digits of the highest and that of the second highest number?**

Sol. Highest number = 932
Second highest number = 724
So, the required difference
$= (9 + 3 + 2) - (7 + 2 + 4)$
$= 14 - 13 = 1$

15. **If all the three digits are arranged in ascending order (from left to right) within the number, in each of these numbers, then which of these will be second lowest ?**

Sol. According to the question,
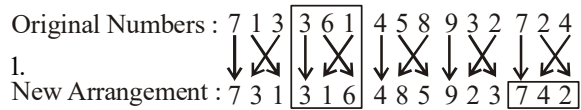
Original number :   7 1 3   3 6 1   4 5 8   9 3 2   7 2 4

New arrangement : 1 3 7   1 3 6   4 5 8   2 3 9   2 4 7

So, the second lowest number will be 137.

16. If the positions of the second and the third digits are interchanged in each of these numbers, then which of these will be exactly divisibly by 2 ?

Sol. According to the question,

Original Numbers : 7 1 3 | 3 6 1 | 4 5 8 9 3 2 7 2 4

1.

New Arrangement : 7 3 1 | 3 1 6 | 4 8 5 9 2 3 | 7 4 2 |
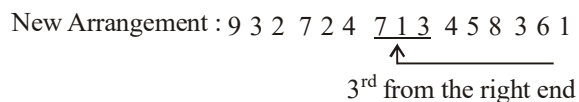
So, two numbers will be exactly divisible by 2, i.e., 316 and 742.

17. If the given numbers are arranged in descending order, then what will be the square of the digits sum of the third number from the right end of the new arrangement ?

Sol. According to the question,

Original Numbers : 7 1 3 3 6 1 4 5 8 9 3 2 7 2 4

New Arrangement : 9 3 2 7 2 4 7 1 3 4 5 8 3 6 1

3rd from the right end

Now, digits sum of the 3rd number from the right

$= 7 + 1 + 3 = 11$

$\therefore$ Square of the digits sum

$= (11)^2 = 121$.

6. Formation of Word from the lethers of another word:

EXAMPLE **18. From the given letters words, select the word which be formed using the letters of the given word.**

ENDEARMENT

(a) TEMPER   (b) MEANS

(c) TENDER   (d) TENT

Sol. (c) TENDER is the word which can formed from the given word ENDEARMENT.

EXAMPLE **19. From the given alternative select the word which cannot be formed using the letters of the given word.**

TEACHER

(a) REACH   (c) EATER

(c) EARTH   (d) TRACTOR

Sol. (d)

TRACTOR is the word which cannot formed from the given word as T does not comes twice in the original word.

EXERCISE

1. A word/set of letters given in capital letters is followed by four answer words. Out of these only one **cannot** be formed by using the letters of the given word/set of letters. Find out that word :

   INDETERMINATE
   (a) DETERMINE   (b) RETINUE
   (c) REMINDER   (d) RETINA

2. From the given alternative words, select the word which **cannot** be formed using the letters of the given word:

   'CONCENTRATION'
   (a) CONCERN   (b) NATION
   (c) TRAIN   (d) CENTRE

3. From the given alternative words, select the word which can be formed using the letters of the given word:

   'DETERMINATION'
   (a) DECLARATION   (b) NATIONAL
   (c) TERMINATED   (d) DEVIATION

4. From the given alternative words, select the word which **cannot** be formed using the letters of the given word:

   MISFORTUNE
   (a) FORT   (b) TURN
   (c) SOFT   (d) ROAM

5. From the given alternative words, select the word which can be formed using the letters of the given word:

   STRANGULATION
   (a) TRIANGLE   (b) GARLAND
   (c) ROASTING   (d) TRAUMA

6. Identify the hidden name of the geometrical figure in the given word from among the answer words whose letters are given in jumbled form.

   SPIRITUAL
   (a) RISPAL   (b) RITUAL
   (c) SPIRIT   (d) RIPITU

7. Which will appear third in the dictionary?
   (a) Monarchy   (b) Monastic
   (c) Monetary   (d) Moneyed

8. In this question, from the given alternatives select the word which cannot be formed by using the letters of the given word.

   APPROPRIATE
   (a) PIRATE   (b) APPROVE
   (c) PROPER   (d) RAPPORT

9. If the first four letters of a term HIPPNOWADIASM are written in reverse order, the next five letters are written without changing their order and then, the remaining letters are again written in reverse order, then which letter is in the middle of the word?
   (a) O   (b) W
   (c) A   (d) I

10. Which word will appear last in the dictionary?
    (a) laugh   (b) latch
    (c) laurels   (d) latitude

11. From the given alternatives select the word which cannot be formed using the letters of the given word.
    Encouragement
    (a) game   (b) tear
    (c) neck·   (d) meat

12. From the given alternative words, select the word which cannot be formed using the letters of the given word:
    DISINTEGRATION
    (a) SIGN   (b) SIGNATURE
    (c) INTERN   (d) SINGER

13. In the following letter series, how many times does 'P' occur in such a way that after 'P', N' O should occur?
    A P N Q P N O S P T O Z P N O Y M P N O
    (a) 2   (b) 5
    (c) 4   (d) 3

14. From the given alternatives select the word which *cannot* be formed using the letters of tne given word.
    SIGNATURE
    (a) SIGHT   (b) GAIN
    (c) NATURE   (d) GATE

15. From the given alternatives select the word which can be formed using the letters of the given word.
    DICTIONARY
    (a) BINARY   (b) DAIRY
    (c) NATION   (d) ADDITION

16. If the first and second letters in the word 'COMMUNICATIONS' were interchanged, also the third and the fourth letters, the 5th and 6th letters and so on, which letter would be the tenth letter counting from your right?
    (a) A   (b) T
    (c) N   (d) U

17. From the given alternatives select the word which cannot be formed using the letters of the given word.
    LEGALIZATION
    (a) ALERT   (b) ALEGATION
    (c) GALLANT   (d) NATAL

18. From the given alternatives select the word which cannot be formed using the letters of the given word.
    DEPARTMENT
    (a) PEN   (b) PARK
    (c) PART   (d) DEAR

19. From the given alternatives select the word which cannot be formed using the letters of the given word :
    INFLATIONARY
    (a) FLAIR   (b) FAULTY
    (c) NATIONAL   (d) RATION

20. If the following words are arranged in reverse dictionary order, which word comes second ?
    (a) Explosion   (b) Express
    (c) Exploit   (d) Expulse

21. From the given alternative words, select the word which cannot be formed using the letters of the given word :
    TRIVANDRUM
    (a) RAIN   (b) DRUM
    (c) TRAIN   (d) DRUK

22. How many meaningful English words can be made with the letters ' OEHM ' using each letter only once in each word ?
    (a) FOUR   (b) THREE
    (c) TWO   (d) ONE

23. From the given alternative words, select the word which cannot be formed using the letters of the given word:
    CUMBERSOME
    (a) MOUSE   (b) SOBER
    (c) ROME   (d) MERCY

24. Name a single letter, which can be prefixed to the following words in order to obtain entirely new words ?
    TILL TABLE PILE TAB PRING
    (a) S   (b) B
    (c) H   (d) C

25. Unscramble the following letters to frame a meaningful word. Then find out the correct numerical position of the letters.
    O T Y S R H I
    1 2 3 4 5 6 7
    (a) 6241375   (b) 6452173
    (c) 6347125   (d) 6742153

26. If it is possible to form a word with the first, fourth, seventh and eleventh letters in the word 'SUPERFLUOUS, write the first letters of that word.
    (a) O   (b) E
    (c) S   (d) L

27. From the given alternative words, select the word which cannot be formed using the letters of the given word.
    HARBINGER
    (a) GARBAGE   (b) RANGER
    (c) BARRING   (d) GARNER

28. From the given alternative words, select the word which be formed using the letters of the given word.
    ENDEARMENT
    (a) TEMPER   (b) MEANS
    (c) TENDER   (d) TENT

29. From the given alternative words, select the word which cannot be formed using the letters of the given word :
    Given : IMPASSIONABLE
    (a) IMPASSABLE   (b) IMPOSSIBLE
    (c) IMPASSIVE   (d) IMPASSION

30. Only one meaningful word can be formed by rearranging the letter of the given jumbled word. Find out that word.
    Given : MUSPOPAPOTIH
    (a) METAMORPHIC
    (b) PHILANTHROPIST
    (c) HIPPOCAMPUS
    (d) HIPPOPOTAMUS

DIRECTIONS (Qs. 31-35): *From the given alternatives select the word which **cannot** be formed using the letters of the given word.*

31. CARPENTER
    (a) NECTAR
    (b) CARPET
    (c) PAINTER
    (d) REPENT

32. TRIBUNAL
    (a) LATIN
    (b) BRAIN
    (c) URBAN
    (d) TRIBLE

33. ORGANISATION
    (a) NATION
    (b) GRANT
    (c) RECOGNISE
    (d) SATAN

34. DEPARTMENT
    (a) ENTER
    (b) PERMIT
    (c) TEMPER
    (d) RENTED

35. CONSTITUTIONAL
    (a) LOCATION
    (b) TUTION
    (c) TALENT
    (d) CONSULT

36. If with the third, fourth, fifth, seventh and tenth letters of the word 'PERSONALITY', a meaningful word is formed, then first letter of the word is the answer. If no word is possible then X is the answer.
    (a) O
    (b) T
    (c) R
    (d) S

37. If by arranging the letters of the word NABMODINT, the name of a game is formed, what are the first and the last letters of the word so formed?
    (a) B, T
    (b) B, N
    (c) N, D
    (d) M, T

38. From the given alternative words, select the word which cannot be formed using the letters of the given word:
    [SSC CGL, Tier-I-2015]
    CUMBERSOME
    (a) MOUSE
    (b) SOBER
    (c) ROME
    (d) MERCY

39. Name a single letter, which can be prefixed to the following words in order to obtain entirely new words ?
    [SSC CGL, Tier-I-2015]
    TILL TABLE PILE TAB PRING
    (a) S
    (b) B
    (c) H
    (d) C

40. Unscramble the following letters to frame a meaningful word. Then find out the correct numerical position of the letters :

    B   C   U   S   M   E   L   R   N   A
    1   2   3   4   5   6   7   8   9   10
    [SSC CGL, Tier-I-2015]
    (a) 6 1 4 3 2 5 8 7 9 10
    (b) 3 1 5 7 10 4 2 6 9 8
    (c) 3 9 4 2 8 10 5 1 7 6
    (d) 2 1 3 4 6 8 9 7 5 10
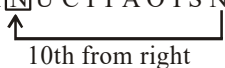
41. From the given alternative words , select the word which cannot be formed using the letters of the given word:
    I N T E L L I G E N C E   **[SSC CGL, Tier-I-2016]**
    (a) CANCEL
    (b) NEGLECT
    (c) GENTLE
    (d) INCITE

42. In the following question, from the given alternative words, select the word which cannot be formed using the letters of the given word. **[SSC CGL, Tier-I-2017]**
    Biological
    (a) Logic   (b) Globe   (c) Bail   (d) Bill

43. How many meaningful English words can be formed with the second, fourth, fifth, and sixth letters of the word HOCKEY (when counted from left to right) using each letter only once in each word? **[SSC CGL, Tier-II-2022]**
    (a) Three
    (b) Zero
    (c) One
    (d) Two

44. Each vowel in the word "PURITAN" is changed to the previous letter in the English alphabetical series and each consonant is changed to the following letter in the English alphabetical series. In the newly formed word, how many alphabets are there in the English alphabetical series between the alphabet which is 1st from the left and 6th from the right? **[SSC CGL, Tier-I-2023]**
    (a) Two
    (b) Three
    (c) One
    (d) Four

45. A number has been denoted to each of the given letters. Select the option from the following four possible arrangements of these numbers that forms a meaningful word. **[SSC CGL, Tier-II-2023]**
    E = 1, N = 2, T = 3, S = 4, T = 5, D = 6, U = 7
    (a) 4, 3, 7, 6, 1, 2, 5
    (b) 2, 1, 4, 3, 6, 7, 5
    (c) 4, 3, 7, 1, 6, 5, 2
    (d) 2, 1, 4, 6, 3, 5, 7

ANSWER KEY

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

Hints & Explanations

1. (b) There is no 'U' letter in the given word.
2. (d) There is only one 'E' in the given word.
3. (c) There is no 'C' letter in the given word. (a) option
   There is no 'L' letter in the given word. (b) option
   There is no 'V' letter in the given word. (d) option
   So, Terminated can be formed.
4. (d) There is no 'A' letter in the given word.
5. (c) STRA N G ULA T IO N
6. (a) RISPAL → SPIRAL
7. (c) The correct order is : Monarchy, Monastic, Monetary, Moneyed.
8. (b) There is no 'V' letter in the given word.
9. (b) H I P P N O W A D I A S M
   P P I H N O W A D M S A I
10. (c)
11. (c) There is no 'K' letter in the given word. So, that word 'Neck' cannot be formed.
12. (b) SIGNATURE cannot be formed as reference word doesnot have 'U' alphabet.
13. (d) A P N Q PNO S P T O Z PNO Y M PNO
14. (a) There in no 'H' in the word SIGNATURE
15. (b) (a) BINARY can not be formed, there is no 'B' in the word DICTIONARY
   (c) NATION can not be formed, as there is only one 'N' in the word DICTIONARY
   (d) ADDITION can not be formed, as there is only one 'D' in the word DICTIONARY
16. (c) 1 2 3 4 5 6 7 8 9 10 11 12 13 14
   C O M M U N I C A T I O N S
   After rearrangement
   O C M M N U C I T A O I S N
   10th from right
17. (a) ALERT can not be formed as there is no 'R' in the word LEGALIZATION. Hence, (a) is the correct choice.
18. (b) There is no 'K' in the word DEPARTMENT.
19. (b) There is no 'u' in the word INFLATIONARY.
20. (b) Arrangement in Reverse dictionary order—
   Expulse → Express → Explosion → Exploit
      1   2   3   4
21. (d) DRUK cannot be formed using TRIVAN DROM as it does not contain letter 'K'.
22. (d) Home, only one meaningful word is formed.
23. (d) MERCY cannot be formed from the given word CUMBERSOME, as there is no 'Y' in the word.
24. (a) Only 'S' can be prefixed to the given words.

New words are:
STILL, STABLE, SPILE, STAB, SPRING

25. (d) H I S T O R Y
   6 7 4 2 1 5 3
26. (d) S U P E R F L U O U S
   1st   4th   7th   11th
   So, possible word with S, E, L, S is L E S S
27. (a) Word GARBAGE cannot be formed as requires two As.
28. (c) ENDREARMENT,
   Word TENDER can be formed
29. (c) There is no 'V' letter in the given word.
30. (d) Meaningful word ⇒ HIPPOPOTAMUS
31. (c) Painter cannot be made from the letters of the given word as I letter is not mentioned in the given word.
32. (d) Trible cannot be made from the letters of the given word as E letter is not mentioned in the given word.
33. (c) Recognise cannot be made from the letters of the given word as C letter is not mentioned in the given word.
34. (b) Permit cannot be made from the letters of the given word as I letter is not mentioned in the given word.
35. (c) Talent cannot be made from the letters of the given word as E letter is not mentioned in the given word.
36. (c) The respective letters of the given word are R, S, O, A and T. The word formed is ROAST. So the first letter is R.
37. (b) The name of the game is BADMINTON.
38. (d) MERCY cannot be formed from the given word CUMBERSOME, as there is no 'Y' in the word.
39. (a) Only 'S' can be prefixed to the given words.
   New words are:
   STILL, STABLE, SPILE, STAB, SPRING
40. (c) Meaningful word is:s
   U N S C R A M B L E
   3 9 4 2 8 10 5 1 7 6
41. (a) CANCEL cannot be Form from INTELLIGENCE
42. (b) 'E' is not appearing in the word 'Biological'. Hence Globe cannot formed from the given word.
43. (c) Letters are – O, K, E, Y
   Meaningful word – YOKE
   Hence, only one meaningful word formed.
44. (a) New formed word → Q T S H U Z O
   Hence, English alphabet between Q and T = R and S.
45. (a) S T U D E N T
   ↓ ↓ ↓ ↓ ↓ ↓ ↓
   4 3 7 6 1 2 5

5 Coding-Decoding

In this segment of commonsense reasoning, secret messages or words have to be decoded. They are coded as per a definite pattern/ rule which should be identified 1st. Then the same is applied to decode another coded word. Under this segment you come across two types of coding letter coding and number coding. Based on these two types of coding-decoding various types of problems come your way. This chapter makes you familiar with every types of problems based on coding-decoding.

TYPE I (CODING BY LETTER SHIFTING)

Pattern 1: Coding in forward sequence

Example 1 : If 'GOOD' is coded as 'HPPE', then how will you code 'BOLD'?

Explanation: Here, every letter of the word 'Good' shifts one place in forward alphabetical sequence. Let us see:

$$\begin{array}{cccc} G & O & O & D \\ +1\downarrow & +1\downarrow & +1\downarrow & +1\downarrow \\ H & P & P & E \end{array}$$

Similarly, every letter in the word 'BOLD' will move one place in forward alphabetical sequence as given below:

$$\begin{array}{cccc} B & O & L & D \\ +1\downarrow & +1\downarrow & +1\downarrow & +1\downarrow \\ C & P & M & E \end{array}$$

∴ Code for 'BOLD' will be 'CPME'.

Pattern 2: Coding in backward sequence.

Example 2 : If 'NAME' is coded as 'MZLD', then how will code SAME?

Explanation: Here, every letter of the word 'MZLD' moves one place in backward alphabet sequence. Let us see:

$$\begin{array}{cccc} N & A & M & E \\ -1\downarrow & -1\downarrow & -1\downarrow & -1\downarrow \\ M & Z & L & D \end{array}$$

Similarly, every letter of the word 'SAME' will move one place in backward alphabet sequence. Let us see :

$$\begin{array}{cccc} S & A & M & E \\ -1\downarrow & -1\downarrow & -1\downarrow & -1\downarrow \\ R & Z & L & D \end{array}$$

∴ Code for 'SAME' will be 'RZLD'.

Pattern 3: Coding based on skipped sequence.

Example 3 : If the word 'FACT' is coded as 'IDFW'; then how will you code 'DEEP'?

Explanation: Here, you see that 2 letters are omitted in alphabetic sequence. The following diagram gives you the more clear picture :

$$\begin{array}{cccc} F & A & C & T \\ +3\downarrow & +3\downarrow & +3\downarrow & +3\downarrow \\ I & D & F & W \end{array}$$

Clearly, 'F' (skip 2 letters) 'I'
'A' (skip 2 letters) 'D'
'C' (skip 2 letters) 'F'
'T' (skip 2 letters) 'W'

Similarly, 'DEEP' can be coded. Let us see :

$$\begin{array}{cccc} D & E & E & P \\ +3\downarrow & +3\downarrow & +3\downarrow & +3\downarrow \\ G & H & H & S \end{array}$$

∴ Code for 'DEEP' will be 'GHHS'.

TYPE II (CODING BY ANALOGY)

Example 4 : If 'RPTFA' stands for 'BLADE', how will you code 'BALE'.

Explanation: Here, 'BLADE' has been coded as 'RPTFA'. You will see that all the letters in the word 'BALE', which have to be coded, are also there in the word 'BLADE'. Hence, all that needs to be done is to choose the relevant code letters from the code word 'RPTFA'. Therefore, B becomes R, A becomes T, L becomes P, and E becomes A. Therefore, 'BALE' will be coded as 'RTPA'.

∴ Correct answer is 'RPTA'.

TYPE III (CODING BY REVERSING LETTERS)

Example 5 : If 'TEMPERATURE' is coded as 'ERUTAREPMET', then how will you code 'EDUCATION' following the same scheme.

Explanation: Here, the word 'TEMPERATURE' has been reversed. Hence, the code for 'education' will be 'NOITACUDE'.

TYPE IV (CODING IN FICTIONS LANGUAGE)

In some cases of coding-decoding, fictions language is used to code some words. In such questions, the codes for a group of

words is given. In such types of problems, codes for each word can be found by eliminating the common words.

Example 6 : In a certain code language 'over and above' is written as 'da pa ta' and 'old and beautiful' is written as 'Sa na pa'. How is 'over' written in that code language?

Explanation: Over (and) above = da (Pa) ta

Old (and) beautiful = Sa na (Pa)

Clearly, 'and' is common in both and a common code is 'Pa'.
∴   Code for 'and' must be 'Pa'.
Code for 'over' = 'da' or 'ta'.
Code for above = 'da' or 'ta'.
Code for old = 'Sa' or 'na'
Code for beautiful = 'Sa' or 'na'
∴ We can't certainly say what will be exact code for 'over'. But it is sure that code for 'over' must be either 'da' or 'ta'.

TYPE V (CODING BASED ON NUMBERS)

Pattern 1: When numerical values are given to words.
Example 7 : If in a certain language A is coded as 1, B is coded as 2. C is coded as 3 and so on, then find the code for AEECD.
Explanation: As given the letters are coded as below:

A	B	C	D	E	F	G	H	I
1	2	3	4	5	6	7	8	9

Now,
A	E	E	C	D
1	5	5	3	4

∴   Code for AEECD = 15534

Pattern 2: When alphabetical code value are given for numbers.
Example 8 : In a certain code 3 is coded as 'R', 4 is coded as 'D', 5 is coded as 'N', 6 is coded as 'P', then find the code for '53446'.
Explanation: As per the given condition

3	4	5	6
R	D	N	P

Now,
5	3	4	4	6
N	R	D	D	P

∴ Code for 53446 = NRDDP.

TYPE VI (MATHEMATICAL OPERATIONS WITH THE POSITION NUMBERS OF LETTERS)

Example 9 : In a certain code, if 'TALE' is written as 38, then how will you code 'CAME' using the same coding scheme?

Explanation : Look at the numbered alphabet and write down the number corresponding to the letters of the word 'TALE'.

T   A   L   E
20   1   12   5

The fact that the code for 'TALE' is 38, gives you a clue that the code is probably obtained by performing an arithmatical operations of the numbers of each other. Let us see :

20 + 1 + 12 + 5 = 38

Thus, the code for 'CAME' is

C   A   M   E
3 + 1 + 13 + 5 = 22

∴   Code for 'CAME' = 22

EXERCISE

1. In a certain code language BEAM is written as 5 % * K and COME is written as $ 7 K %. How is BOMB written in that code?
   (a) 5 % K5   (b) 5 7 K5
   (c) $ 7 K $ (d) 5$ % 5

2. In a certain code PATHOLOGIST is written as PIUBQKSRHFN. How is CONTROVERSY written in that code?
   (a) SUOPDNXRQDU   (b) SUOPDNZTSFW
   (c) QSMNBPXRQDU   (d) QSMNBPZTSFW

3. In a certain code language NATIONALISM is written as OINTANMSAIL. How is DEPARTMENTS written in that code?
   (a) RADEPTSTMNE   (b) RADPETSTMNE
   (c) RADPESTMTNE   (d) RADPETSTNME

4. In a certain code language OUTCOME is written as OQWWEQOE. How is REFRACT written in that code?
   (a) RTGITCET   (b) RTGTICET
   (c) RTGITECT   (c) RTGICTET

5. 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 is the coded form of QKTBFM?
   (a) 452683   (b) 472683
   (c) 452783   (d) None of these

6. If in a certain code language 'pen pencil' is written as '$ £', 'eraser sharpener' is written as @ #', and 'pencil eraser' is written as '$ @', then what is the code for 'pen'?
   (a) £   (b) @
   (c) $ (d) #

7. In a certain code language BORN is written as APQON and LACK is written as KBBLK. How will the word GRID be written in that code language?
   (a) FQHCD   (b) FSHED
   (c) HSJED   (d) FSHCD

8. In a certain code language STREAMLING is written as CGTVUHOJMN. How will the word PERIODICAL be written in that language?
   (a) PJSFQMNBJE   (b) QKTGRMBDJE
   (c) QKTGRMCEKF   (d) PJSFQMBDJE

9. If 'green' is called `white', `white' is called `yellow , 'yellow' is called `red', `red' is called `orange', then which of the following represents the colour of sunflower?
   (a) red
   (b) yellow
   (c) brown
   (d) indigo

10. In a certain code BROUGHT is written as SGFVAQN. How is SUPREME written in that code?
    (a) FNFSRTO
    (b) RTOSDLD
    (c) DLDSRTO
    (d) DLDSTVQ

11. In a certain code 'CLOUD' is written as 'GTRKF'. How is SIGHT written in that code?
    (a) WGJHV
    (b) UGHHT
    (c) UHJFW
    (d) WFJGV

12. In a certain code CHAIR is written as # * • ÷ % and HIDE is written as * ÷ + $. How is DEAR written in that code?
    (a) $ + • % 2
    (b) + $ ÷ %
    (c) $ + % ÷ 4
    (d) None of these

13. In a certain code AROMATIC is written as BQPLBSJB. How is BRAIN written in that code?
    (a) CQBJO
    (b) CSBJO
    (c) CQBHO
    (d) CSBHO

14. If 'yellow' means 'green', 'green' means 'white', white means 'red', 'red' means 'black', 'black' means 'blue' and 'blue' means 'violet', which of the following represents the colour of human blood?
    (a) black
    (b) violet
    (c) red
    (d) None of these

15. In a certain code 'FEAR' is written as ' + × ÷ * ' and 'READ' is written as '*× ÷ $ '. How is 'FADE' written in that code?
    (a) + ÷ $ ×
    (b) × ÷ + $
    (c) $ ÷ + *
    (d) ÷ $ + ×

16. In a certain code BREAK is written as ASDBJ. How is SOLAR written in that code?
    (a) RPKBS
    (b) TPMBS
    (c) RPKBQ
    (d) TPKBQ

17. In a code language "1357" means "We are very happy", "2639" means "They are extremely lucky", and "794" means "Happy and lucky". Which digit in that code language stands for "very"?
    (a) 1
    (b) 5
    (c) 7
    (d) Data inadequate

18. In a certain code language 'CREATIVE' is written as 'BDSBFUJS'. How is 'TRIANGLE' written in that code?
    (a) BSHSFHKM
    (b) BHSSMHHF
    (c) BSSHFMKH
    (d) BHSSFKHM

19. In a certain code 'BROTHER' is written as '$%53#4%' and 'DREAM' is written as '9%47 '. How is 'THREAD' written in that code?
    (a) #3%479
    (b) 3#%479
    (c) 3$%479
    (d) 3#% 79

20. In a certain code language 'OMNIPRESENT' is written as 'QJONPTSMDRD'. How is 'CREDIBILITY' written in that code?
    (a) JEFSDCXSHKH
    (b) JEFSDDXSHKH
    (c) DSFEJDDXSHKH
    (d) JEFSDXDSHKH

21. If water is called air, air is called green, green is called brown, brown is called steel, steel is called red, red is called rain, rain is called tree and tree is called road, what is the colour of human blood?

22. (a) Red
    (b) Water
    (c) Rain
    (d) Tree

22. In a certain code language 'MOTHERS' is written as 'OMVGGPU'. How is 'BROUGHT' written in that code?
    (a) CPRTIEV
    (b) DPQSIFV
    (c) DPRTIDV
    (d) DPQTIFV

23. In a certain code 'PENCIL' is written as 'RCTAMJ' then in that code 'BROKEN' is written as
    (a) SPFLIM
    (b) SVFLIN
    (c) FVSMGL
    (d) None of these

24. In a certain code language the word FUTILE is written as HYVMNI. How will the word PENCIL be written in that language?
    (a) OIFRLT
    (b) OIFRLS
    (c) OLFRIT
    (d) None of these

25. In a certain code language the word 'NUMBER' is written as 'UMHTEL'. How will the word 'SECOND' be written in that language?
    (a) CTQDRB
    (b) GRQDRB
    (c) CTQFRB
    (d) GRQFRB

26. If the sentence "you must go early to catch the train" is coded as "early catch train must to go the you", what will be code for the sentence "morning exercise will help you to keep fit"?
    (a) help to fit you exercise will keep morning
    (b) help to fit exercise you will keep morning
    (c) will help to fit you exercise keep morning
    (d) will fit to exercise you help keep morning

27. In a code, CORNER is written as GSVRIV. How can CENTRAL be written in that code?
    (a) DFOUSBM
    (b) GIRXVEP
    (c) GJRYVEP
    (d) GNFJKER

28. If FRIEND is coded as HUMJTK, how is CANDLE written in that code?
    (a) EDRIRL
    (b) DCQHQK
    (c) ESJFME
    (d) FYOBOC

29. In a code STATION is denoted by URCRKMP then BRING is denoted in the same code by
    (a) CSKLH
    (b) DSGLH
    (c) KSKPH
    (d) None of these

30. In a certain code '289' means 'Read from newspaper', '276' means 'tea from field' and '85' means 'Wall newspaper'. Which of the following number is used for 'tea'?
    (a) 2
    (b) 6
    (c) Either 7 or 6
    (d) Either 2 or 6

31. If 'black' means 'white', 'white' means 'red', 'red' means 'yellow', 'yellow' means 'blue', 'blue' means 'green', 'green' means 'purple' and 'purple' means 'orange' then what is the colour of clean sky?
    (a) green
    (b) purple
    (c) blue
    (d) yellow

32. If ROSE is coded as 6821, CHAIR is coded as 73456 and PREACH is coded as 961473, what will be the code for SEARCH?
    (a) 318826
    (b) 214673
    (c) 214763
    (d) 216473

33. If MOBILITY is coded as 46293927, then EXAMINATION is coded as
    (a) 45038401854
    (b) 56149512965
    (c) 57159413955
    (d) 67250623076

34. In a certain code BANKER is written as LFSCBO. How will CONFER be written in that code?
    (a) GFSDPO   (b) FGSDOP
    (c) GFSEPO   (d) FHSDPO

35. In a certain code language, '3a, 2b, 7c' means 'Truth is Eternal'; '7c, 9a, 8b, 3a' means 'Enmity is not Eternal' and '9a, 4d, 2d, 8b' means 'Truth does not perish'. Which of the following means 'Enmity' in that language?
    (a) 3a   (b) 7c
    (c) 8b   (d) 9a

36. If NATION is coded as 467234 and EARN be coded as 1654 then ATTENTION should be coded as :-
    (a) 432769561   (b) 956143654
    (c) 766412743   (d) 677147234

37. If HONESTY is written as 5132468 and POVERTY as 7192068 how is HORSE written as in a certain code?
    (a) 50124   (b) 51042
    (c) 51024   (d) 52014

38. If SEVEN is coded as 23136 and EIGHT as 34579. What will be the code for NINE ?
    (a) 6463   (b) 6364   (c) 6346   (d) 6436

39. If RUSH is coded as 66 then how is GIRL coded as:
    (a) 75   (b) 64
    (c) 47   (d) 46

40. If LOVE is coded as 27 then how is COME coded as:-
    (a) 38   (b) 18   (c) 28   (d) 8

41. If 841 = 3, 633 = 5, 425 = 7, then 217 = ?
    (a) 6   (b) 7
    (c) 8   (d) 9

42. If A = 1, PAT = 37 then TAP = ?
    (a) 73   (b) 37   (c) 36   (d) 38

43. Certain letters are coded as : TODAY-457338 WROTE-10542. DATE-7342 and DIRTH-79046. What does the code number '5' stand for ?
    (a) D   (b) R   (c) O   (d) T

44. If NOR is coded as 2-3-6, then how should REST be coded in the same code language ?
    (a) 6-19-6-7   (b) 5-19-5-8
    (c) 6-19-5-6   (d) 6-18-5-8

45. In a code language, 123 means 'hot filtered coffee', 356 means 'very hot day', 589 means 'day and night'. Which numerical stands for 'very'?
    (a) 5   (b) 6   (c) 8   (d) 9

46. In a certain code WEAK is written as 5%9$ and WHEN is written as 5*%7. How HANK written in that code?
    (a) *9$7   (b) 9*$7   (c) $97*   (d) *97$

47. In a certain code MODE is written as #8%6 and DEAF is written as %67$. How is FOAM written in that code?
    (a) $87#   (b) $#7%
    (c) #87%   (d) $87%

48. In a certain code DESK is written as # $ 52, RIDE is written as % 7#$. How is RISK written in that code?
    (a) %725   (b) %752
    (c) %7#2   (d) %7$#

49. In a certain code BEND is written as 5%7@ and DREAM is written as @2%48. How is MADE written in that code?
    (a) 84@%   (b) 8@4%
    (c) 85@%   (d) 84%5

50. If SMOOTH is coded as 135579, ROUGH as 97531 and HARD as 9498, then SOFT will be coded as

51. In a certain code OVER is written as $#%*. and VIST is written as #+×–. How is SORE written in that code?
    (a) ×$*%   (b) %×$*
    (c) ×*$%   (d) × %*

    (a) 1527   (b) 1347
    (c) 4998   (d) 8949

52. Using the following code and key decode the given coded word:

    Code : L X P Z J Y Q M N B
    Key : b a e s p r h i g t
    Coded word : Z B Y X M N Q B
    [SSC CGL, Tier-I-2015]
    (a) height   (b) struggle
    (c) straight   (d) strength

53. In a certain code "MOUSE" is written as "PRUOC". How is "SHIFT" written in that code ?
    [SSC CGL, Tier-I-2015]
    (a) VJIDR   (b) VIKRD
    (c) RKIVD   (d) VKIDR

54. In a certain code, '253' means 'books are old'; '546' means 'man is old' and '378' means 'buy good books'. What stands for "are" in that code? **[SSC CGL, Tier-I-2015]**
    (a) 2   (b) 4
    (c) 5   (d) 6

55. If C is coded 3 , DASH is coded as 32 , then DANCE will be coded as **[SSC CGL, Tier-I-2016]**
    (a) 20   (b) 25
    (c) 26   (d) 27

56. In a certain code language **"who are you"** is written as **"432"** , **"they is you"** is written as **"485"** and **"they are dangerous"** is written as **"295"**. How is **"dangerous"** written in that code language?
    [SSC CGL, Tier-I-2017]
    (a) 2   (b) 4
    (c) 5   (d) 9

57. In a code language, TROPICAL is written as PORTLACT. How will DISTANCE be written in that language?
    [SSC CGL, Tier-I-2017]
    (a) ISTSNAEF   (b) TSIDECNA
    (c) TSIDECAN   (d) STIDECNA

58. In a code language, if LAMINATE is coded as 121139141205, then how will SYSTEMIC be coded in the same language? **[SSC CGL, Tier-I-2018]**
    (a) 1925192051393   (b) 1925192051493
    (c) 1825182051393   (d) 1925192051383

59. If EAGER is coded as 51759 then how will CADET be coded? **[SSC CGL, Tier-I-2018]**
    (a) 31457   (b) 34157
    (c) 31547   (d) 31450

60. In a certain code language, 'CROW' is coded as '64' and 'EAGLE' is coded as '125'. How will 'PARRORT' be coded in that language? **[SSC CGL, Tier-I-2020]**
    (a) 216   (b) 249   (c) 88   (d) 232

61. In a certain code language, COUNTRY' is written as 'BOWKXLF'. How will 'DESPAIR' be written in that language? **[SSC CGL, Tier-I-2020]**
    (a) GBVMDFU   (b) ULDSVHG
    (c) GBSPSXIO   (d) UFDMVBG

62. In a certain language, CHHAPAK is coded as DJKEUGR. How will MALANGA be coded in that language?
[SSC CGL, Tier-I-2021]
(a) NCEOSMC   (b) NCOCSMC
(c) NCOESMH   (d) NCOCMSC

63. Select the option that is related to the third term in the same way as the second term is related to the first term.
[SSC CGL, Tier-I-2021]
BACTERIA : EXFWBUFX :: WOUNDS : ?
(a) ZLRQGV   (b) YLRQFV
(c) ZLSQFW   (d) ZRXQGV

64. In a certain code language, 'CROWD' is coded as 23415924 and 'TRHICK' is coded as 162491997. How will 'FRUGAL' be coded in that language? **[SSC CGL, Tier-I-2021]**
(a) 1226761821   (b) 1521012291
(c) 1512021921   (d) 1221021186

65. In a certain code language, 6219 means 'Sachin is a cricketer' and 2646 means 'He played from Mumbai'. Which of the following is the code for 'Mumbai is very famous'?
[SSC CGL, Tier-I-2021]
(a) 7945   (b)   6246   (c)   6285   (d)   2458

66. In a certain code language, 'BEHOLD' is written as 'BDEHLO' and 'INDEED' is written as 'DDEEIN'. How will 'COURSE' be written in that language?
[SSC CGL, Tier-I-2022]
(a) CEROSU   (b) CEORUS
(c) CEOSUR   (d) CEORSU

67. In a certain code language, FRUCTUS is coded as 108, and SPRINTER is coded as 119. How will MASCULINE be coded in that language? **[SSC CGL, Tier-I-2022]**
(a) 96   (b)   99   (c)   97   (d)   98

68. In a certain code language, 'CARD' is coded as '7359', 'SERV' is coded as '1256'and 'PACK' is coded as '8497'. What is the code for 'D' in the given code language?
[SSC CGL, Tier-II-2022]
(a) 3   (b)   7   (c)   5   (d)   9

69. In a certain code language, 'BUTTER' is coded as 'CWWSCO'and 'THEORY'is coded as 'UJHNPV'. How will 'LATENT' be coded in that language?
[SSC CGL, Tier-II-2022]
(a) MCWDLQ   (b) MEVCKR
(c) MDXCLQ   (d) MCWDMP

70. In a certain code language, 'AROUND' is coded as 'CVUCXP' and 'ONLINE' is coded as 'QRRQXQ'. How will 'RUSTIC' be coded in the same language? **[SSC CGL, Tier-I-2023]**
(a) SXYBSP   (b) SXXARP
(c) TYXASO   (d) TYYBSO

71. In a certain code language, if 'DXF' is written as '102' and 'URO' is written as '162', how will 'LNZ' be written in the same code language? **[SSC CGL, Tier-I-2023]**
(a) 146   (b) 148
(c) 124   (d) 156

72. In a certain code, the word COMPAQ is written as DQNRBS and SONY is written as TQOA. In the same code, how is MOTOROLA written? **[SSC CGL, Tier-II-2023]**
(a) NPUPSPMB   (b) INUNSNMB
(c) NQUQSQMC   (d) OPUPUPIB

73. In a certain code language, 'CROSS' is written as '66' and 'CHART' is written as '90'. **[SSC CGL, Tier-II-2023]** How will 'SYMBOL' be written in that language?
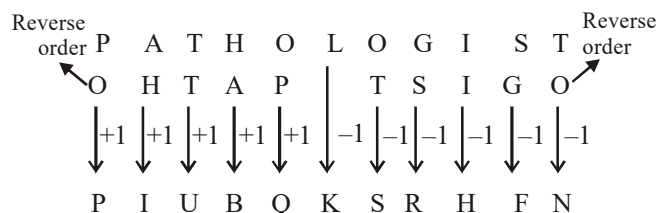(a) 82   (b) 93
(c) 76   (d) 88

ANSWER KEY

1	(b)	8	(b)	15	(a)	22	(d)	29	(d)	36	(d)	43	(c)	50	(a)	57	(b)	64	(c)	71	(d)
2	(a)	9	(a)	16	(c)	23	(d)	30	(c)	37	(b)	44	(c)	51	(a)	58	(a)	65	(b)	72	(c)
3	(b)	10	(c)	17	(d)	24	(d)	31	(a)	38	(a)	45	(b)	52	(c)	59	(a)	66	(d)	73	(a)
4	(a)	11	(a)	18	(d)	25	(b)	32	(b)	39	(d)	46	(d)	53	(d)	60	(a)	67	(c)		
5	(d)	12	(d)	19	(b)	26	(b)	33	(b)	40	(b)	47	(a)	54	(a)	61	(d)	68	(a)		
6	(a)	13	(c)	20	(b)	27	(b)	34	(a)	41	(d)	48	(b)	55	(d)	62	(c)	69	(a)		
7	(b)	14	(a)	21	(c)	28	(a)	35	(c)	42	(b)	49	(a)	56	(d)	63	(a)	70	(d)		

Hints & Explanations

1.   (b)   Here, B $\Rightarrow$ 5, E $\Rightarrow$ %, A $\Rightarrow$ *,
M $\Rightarrow$ K, C $\Rightarrow$ \$, O $\Rightarrow$ 7
Therefore, BOMB $\Rightarrow$ 57K5

2.   (a)

3.   (b)

Hence, CONTROVERSY will be written as SUOPDNXRQDU.

Similarly,

DEPARTMENTS → unchanged
Reverse order ←

RAPED T STNEM
RADPE T STMNE

4. (a)

O U T C O M E
+2 +2 +3 +2 +2 +2 +0
Coded as → O Q W W E Q O E

R E F R A C T
+2 +2 +3 +2 +2 +2 +0
Coded as → R T G I T C E T
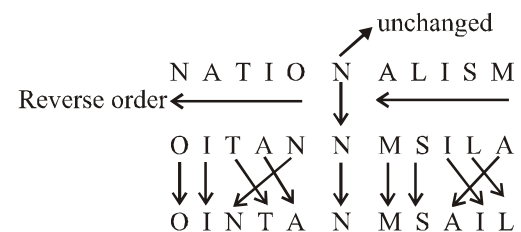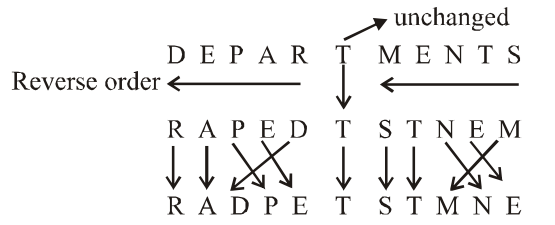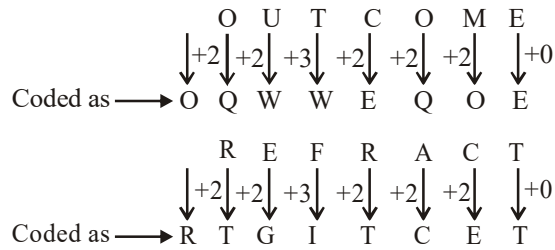
5. (d) Q K T B F M = 4 5 2 8 6 3

6. (a) Pen pencil = $£ ...(i)
Eraser sharpner = @# ...(ii)
Pencil eraser = $@ ...(iii)
From (i) and (iii), the code for 'pencil' is $.
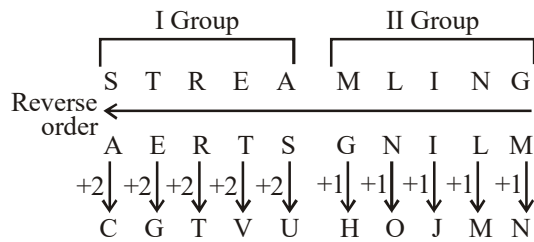Hence, from (i), the code for 'pen' is £.

7. (b)
B O   R N
−1 +1   −1 +1

A P   Q O −1 N
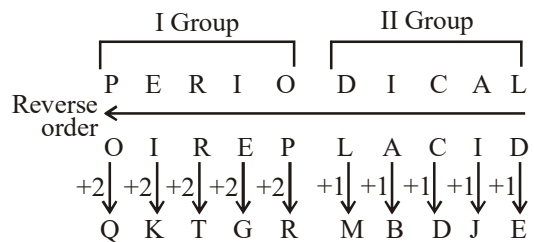L A   C K
−1 +1   −1 +1

K B   B L −1 K
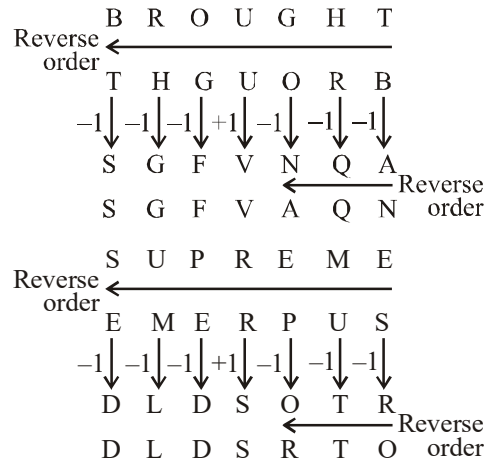Similarly,
G R   I D
−1 +1   −1 +1

F S   H E −1 D

8. (b)

I Group   II Group
S T R E A   M L I N G
Reverse order ←
A E R T S   G N I L M
+2 +2 +2 +2 +2 +1 +1 +1 +1 +1
C G T V U   H O J M N

Similarly,

I Group   II Group
P E R I O   D I C A L
Reverse order ←
O I R E P   L A C I D
+2 +2 +2 +2 +2 +1 +1 +1 +1 +1
Q K T G R   M B D J E

9. (a) The colour of sunflower is yellow and yellow is called 'red'. Hence sunflower is red.

10. (c)
B R O U G H T
Reverse order ←
T H G U O R B
−1 −1 −1 +1 −1 −1 −1
S G F V N Q A
Reverse order ←
S G F V A Q N

S U P R E M E
Reverse order ←
E M E R P U S
−1 −1 −1 +1 −1 −1 −1
D L D S O T R
Reverse order ←
D L D S R T O

11. (a) Here, each letter of the word CLOUD is written as three letters forward and one letter backward alternately. Following this CLOUD becomes FKRTG. After that, reverse the order of the result obtained in the previous operation. Thus, FKRTG becomes GTRKF.
Similarly, SIGHT will change its form as follows:
SIGHT → VHJGW → WGJHV

12. (d)

Code: # * • ÷ % + $

Letter: C H A I R D E
Therefore, code for DEAR = + $ • %

13. (c)
A R O M A T I C
+1 −1 +1 −I +1 −1 +1 −1

B Q P L B S J B

Similarly, B R A I N
            +1 −1 +1 −1 +1
            C Q B H O

14. (a) The colour of human blood is red. Here red means black. Therefore, black is our answer.

15. (a) It is clear that F → +, A → ÷, D → $ and E → ×
∴ FADE → + ÷ $ ×

16. (c)
B R E A K
−1 +1 −1 +1 −1
A S D B J
Similarly,
S O L A R
−1 +1 −1 +1 −1
R P K B Q

17. (d) C R E A T I V E
18. (d) C R E A T I V E
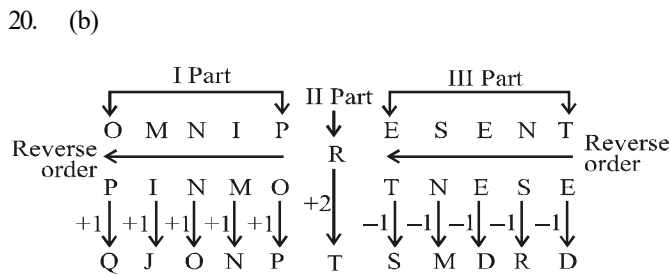When the letters in both the halves are reversed, we get
A E R C E V I T
+1 −1 +1 −1 +1 −1 +1 −1
B D S B F U J S

Next, the letters have been written as one place forward and one place backward alternately.
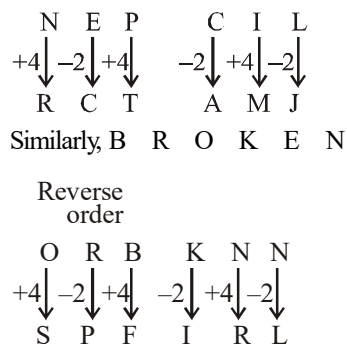
Similarly, TRIANGLE is coded as follows:

T R I A N G L E

A	I	R	T	E	L	G	N
+1↓	−1↓	+1↓	−1↓	+1↓	−1↓	+1↓	−1↓
B	H	S	S	F	K	H	M

Hence, code for TRIANGLE is BHSSFKHM

19. (b)   Letter : B   R   O   T   H   E   R   D   A   M

Code : $ %   5   3   #   4   %   9   7   ★
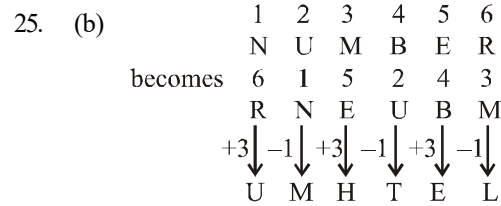
Therefore, code for THREAD ⇒ 3#% 479

20. (b)

I Part   II Part   III Part

O M N I P   E S E N T

Reverse order ←   R   → Reverse order

P	I	N	M	O		T	N	E	S	E
+1↓	+1↓	+1↓	+1↓	+1↓	+2↓	−1↓	−1↓	−1↓	−1↓	−1↓
Q	J	O	N	P	T	S	M	D	R	D

Hence code for CREDIBILITY is JEFS DDXSHKM

21. (c)   The colour of human blood is red. But here red is called rain.

22. (d)

M	O	T	H	E	R	S
+2↓	−2↓	+2↓	−1↓	+2↓	−2↓	+2↓
O	M	V	G	G	P	U

Similarly, BROUGHT be coded as follows:

B	R	O	U	G	H	T
+2↓	−2↓	+2↓	−1↓	+2↓	−2↓	+2↓
D	P	Q	T	I	F	V

23. (d)   P   E   N   C   I   L

N	E	P		C	I	L
+4↓	−2↓	+4↓		−2↓	+4↓	−2↓
R	C	T		A	M	J

Similarly, B   R   O   K   E   N

Reverse order

O	R	B		K	N	N
+4↓	−2↓	+4↓		−2↓	+4↓	−2↓
S	P	F		I	R	L

24. (d)

F	U	T	I	L	E
+2↓	+4↓	+2↓	+4↓	+2↓	+4↓

coded as   H   Y   V   M   N   I

P	E	N	C	I	L
+2↓	+4↓	+2↓	+4↓	+2↓	+4↓

coded as   R   I   P   G   K   P

25. (b)

1	2	3	4	5	6
N	U	M	B	E	R

becomes

6	1	5	2	4	3
R	N	E	U	B	M
+3↓	−1↓	+3↓	−1↓	+3↓	−1↓
U	M	H	T	E	L

Similarly, SECOND ⟶ DSNEOC ⟶ GRQDRB

26. (b)

you	must	go	early	to	catch	the	train
1	2	3	4	5	6	7	8
early	catch	train	must	to	go	the	you
4	6	8	2	5	3	7	1

Similarly,

morning	exercise	will	help	you	to	keep	fit
1	2	3	4	5	6	7	8
4	6	8	2	5	3	7	1
help	to	fit	exercise	you	will	keep	morning

27. (b)

C	O	R	N	E	R
+4↓	+4↓	+4↓	+4↓	+4↓	+4↓

Coded as: G   S   V   R   I   V

Similarly,

C	E	N	T	R	A	L
+4↓	+4↓	+4↓	+4↓	+4↓	+4↓	+4↓
G	I	R	X	V	E	P
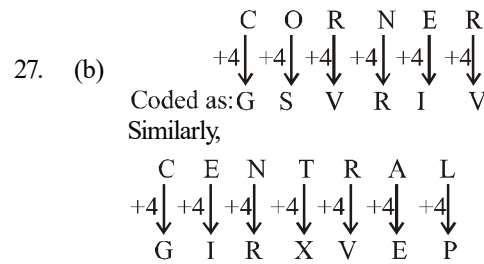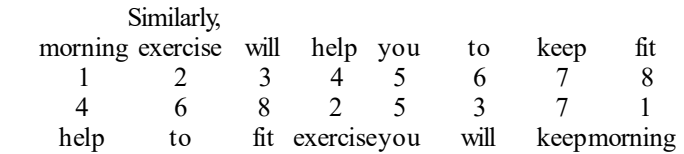
28. (a)

F	R	I	E	N	D
+2↓	+3↓	+4↓	+5↓	+6↓	+7↓

Coded as: H   U   M   J   T   K

Similarly,

C	A	N	D	L	E
+2↓	+3↓	+4↓	+5↓	+6↓	+7↓
E	D	R	I	R	L

29. (d)   As

S   T   A   T   I   O   N   →   U   R   C   R   K   M   P   (with −2 and +2 shifts)

Similarly

B   R   I   N   G   →   D   P   K   L   I   (with −2 and +2 shifts)
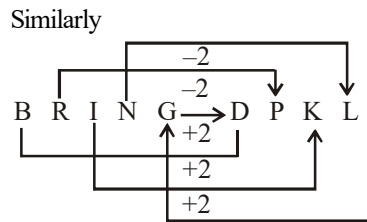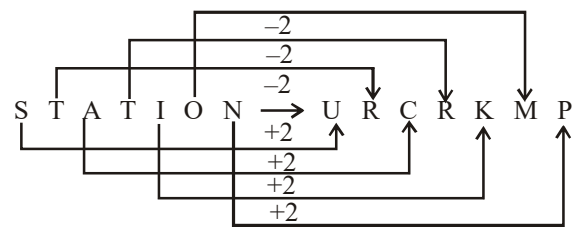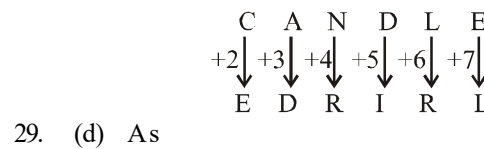
30. (c)   '289' means 'Read from newspaper'   ....(i)

'276' means 'tea from field'   ....(ii)

On comparing (i) and (ii),   2 is used for, 'from'

∴ From (ii) for tea the number is either 6 or 7.

31. (a)   The colour of clean sky is blue and blue means green. Hence, the colour of clean sky is green.

32. (b) The alphabets are coded as shown:
    R   O   S   E   C   H   A   I   P
    6   8   2   1   7   3   4   5   9
    So, in SEARCH, S is coded as 2, E as 1, A as 4, R as 6, C as 7, H as 3. Thus, the code for SEARCH is 214673.

33. (b) Let A = 1, B = 2, C = 3, ..., X = 24, Y = 25, Z = 26.
    Then, M = 13 = 1 + 3 = 4;   O = 15 = 1 + 5 = 6
    L = 12 = 1 + 2 = 3;   T = 20 = 2 + 0 = 2;
    Y = 25 = 2 + 5 = 7.
    So, MOBILITY = 46293927.
    Similarly, EXAMINATION = 56149512965

34. (a) Here, the coding has been done in two steps. In the first step, the letters of the words are split into two groups having equal number of letters, i.e.

    | B A N | K E R |

    After that the position of the groups are interchanged. i.e.

    | K E R | B A N |

    And in the second step, each letter is moved one step forward.

    | K E R | B A N |

    | L F S | C B O |

    Thus the code for BANKAR is LFSCBO. Similarly, the code of CONFER can be obtained as follows:

    | C O N | F E R |

    | F E R | C O N |

    | G F S | D P O | ←Coded word

35. (c) In the second and third statements, the common code is '9a' and the common word is 'not'. So, '9a' means 'not'. In the first and second statements, the common codes are '7c' and '3a' and the common words are 'is' and 'Eternal". So, in the second statement, '8b' means 'Enmity'.

36. (d) N A T I O N   E A R N
         | ↓ ↓ ↓ ↓
         4   1 6 5 4
           6 7 2
              3 4

         A T T E N T I O N
         | | | | | | | | |
         6 7 7 1 4 7 2 3 4

37. (b) H O N E S T Y   P O V E R T Y
         | | | | | | | | | | | | | |
         5 1 3 2 4 6 8   7 1 9 2 0 6 8

Therefore

    H O R S E
    | | | | |
    5 1 0 4 2

38. (a) S E V E N ⟶ 2 3 1 3 6

    E I G H T ⟶ 3 4 5 7 9
    Hence

    N I N E ⟶ 6 4 6 3

39. (d) R U S H   G I R L
         | | | | | | | |
         18 +21+ 19 + 8 = 66   7 + 9 + 18 +12 = 46

40. (b) L O V E   C O M E
         | | | | | | | |
         12 + 15+22 + 5 = 54   3 + 15+13 + 5 = 36

    $\dfrac{54}{2} = 27$

    Similarly,

    $\dfrac{36}{2} = 18$

41. (d) $\dfrac{8}{4} = 2+1 = 3 \quad \dfrac{6}{3} + 3 = 5 \quad \dfrac{4}{2}+5 = 7 \quad \dfrac{2}{1} = 2+7 = 9$

42. (b) A = 1

    P A T   T A P
    | | | | | |
    16 + 1 + 20 = 37   20 + 1 + 16 = 37

43. (c) The manner of coding is

TODAY	WROTE	DATE	DIRTH
45738	10542	7342	79046

    The number '5' is common in words TODAY and WROTE, and so is the letter 'O'. Letter 'T' cannot be the answer because it is common in all the four words and so is its number code '4'.

44. (c) Difference between alphabetical positions of N and O = 1 = difference between 2 and 3
    Difference between alphabetical positions of O and R = 3 = Diff. between 3 and 6.
    Similarly, for REST,
    difference between R and E = 13,
    difference between E and S = 14
    and difference between S and T = 1
    Here, only option (c) follows above condition

45. (b) 1 2 ③ ⟶ (hot) filtered coffee

③ ⑤ 6 ⟶ very (hot) [day]

⑤ 8 9 ⟶ [day] and night

Clearly, '6' stands for 'very'.

46. (d) W E A K   W H E N
↓ ↓ ↓ ↓   ↓ ↓ ↓ ↓
5 % 9 $ 5 * % 7

Therefore,

H A N K
↓ ↓ ↓ ↓
* 9 7 $

47. (a) As,

M O D E and D E A F
↓ ↓ ↓ ↓   ↓ ↓ ↓ ↓
8 % 6   % 6 7 $

Similarly,

F O A M
↓ ↓ ↓ ↓
$ 8 7 #

48. (b) R → %, I → 7, S → 5, K → 2.

49. (a)   BEND   → 5 % 7 @
and DREAM   → @ 2 % 4 8
∴   MADE   → 8 4 @ %

50. (a) SMOOTH ≡ 135579
ROUGH ≡ 97531
HARD ≡ 9498 ⇒ O = 5
Clearly, only the first option i.e. 1527 contains 5.
Hence, the correct code for SOFT in the code would
be 1527.

51. (a)

O	V	E	R	V	I	S	T
$	#	%	*	#	+	×	−

From above table, SORE is coded as :

S	O	R	E
×	$	*	%

52. (c) Coded word: Z B Y X M N Q B
↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
Key :   s t r a i g h t

53. (d)   M   O   U   S   E
↓+3 ↓+3 ↓+0 ↓−2 ↓−2
Coded as: P   R   U   Q   C
Similarly,
S   H   I   F   T
↓+3 ↓+3 ↓+0 ↓−2 ↓−2
Coded as: V   K   I   D   R

54. (a) 2 ⑤ △₃ ⇒ (books) are (old)

⑤ 4 6 ⇒ man is (old)

△₃ 7 8 ⇒ buy good (books)

Codes are :
5 ⇒ old 4 ⇒ man or is 8 ⇒ buy or good
3 ⇒ books   6 ⇒ man or is
2 ⇒ are 7 ⇒ buy or good
2 stands for "are" in that code.

55. (d) D A S H ⇒ 4 + 1 + 19 + 8 = 32
D A N C E ⇒ 4 + 1 + 14 + 3 + 5 = 27

56. (d) Who (are)   you   = 4 3 ②
(they) is   you   = 4 8 △₅
(they) (are) [dangerous] = ② ⑨ △₅

57. (b) T R O P I C A L   D I S T A N C E
⤲⤲⤲⤲   Similarly,   ⤲⤲⤲⤲
P O R T L A C I   T S I D E C N A

58. (a)   L A M I N A T E
| | | | | | | |
12 1 13 9 14 1 20 5
Alphabet position in english alphabets

Similarly,

S Y S T E M I C
| | | | | | | |
19 25 19 20 5 13 9 3
Alphabet position in english alphabets

59. (a)

E A G E R   C A D E T
| | | | | Similarly, | | | | |
5 1 7 5 9   3 1 4 5 7
alphabet in   alphabet in
positions reverse   positions reverse

60. (a) The code is cube of letters present in the word
as,   C R O W → 4 Letters, $(4)^3 = 64$
E A G L E → 5 Letters, $(5)^3 = 125$
Similarly,
P A R R O T → 6 Letters, $(6)^3 = 216$

61. (d) As, C O U N T R Y
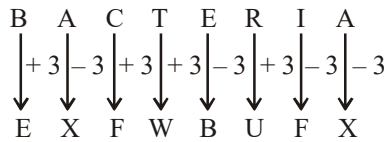↓+3 ↓−3 ↓+3 ↓−3 ↓+3 ↓−3 ↓+3
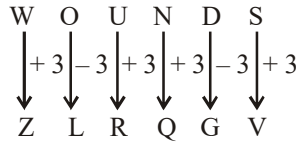F L X K W O B
After reversing, BOWKXLF
Similarly,
D E S P A I R
↓+3 ↓−3 ↓+3 ↓−3 ↓+3 ↓−3 ↓+3
G B V M D F U
After reversing, UFDMVBG

62. (c) As,
C H H A P A K
|+1 |+2 |+3 |+4 |+5 |+6 |+7
↓ ↓ ↓ ↓ ↓ ↓ ↓
D J K E U G R
Similarly,
M A L A N G A
|+1 |+2 |+3 |+4 |+5 |+6 |+7
↓ ↓ ↓ ↓ ↓ ↓ ↓
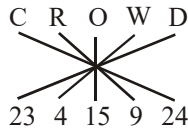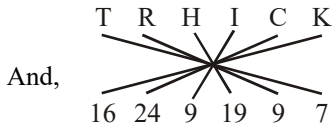N C O E S M H

63. (a) As,

B A C T E R I A

$+3$ -3 $+3$ $+3$ -3 $+3$ -3 -3

E X F W B U F X

Similarly,

W O U N D S

$+3$ -3 $+3$ $+3$ -3 $+3$

Z L R Q G V

64. (c) As,

C R O W D

23 4 15 9 24

Here, vowel is coded in forward alphabet position

T R H I C K

And,

16 24 9 19 9 7

Similarly,

F R U G A L

15 1 20 21 9 21

65. (b) Sachin is a cricketer $\longrightarrow$ 6 2 1 9

He played from Mumbai $\longrightarrow$ 2 6 4 6

The code of every word is, number of letters in that word. As 'Sachin' has six letters, so code for Sachin is '6'.

Mumbai is very famous $\longrightarrow$ $\boxed{6\ 2\ 4\ 6}$

66. (d)

B E H O L D $\rightarrow$ B D E H L O
(2)(5)(8)(15)(12)(4)   (2)(4)(5)(8)(12)(15)
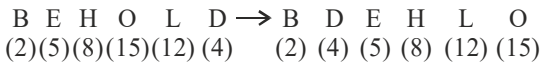
Letters are arranged in increasing order.

Similarly,

I N D E E D $\rightarrow$ D D E E I N
(9)(14)(4)(5)(5)(4)   (4)(4)(5)(5)(9)(14)

So,

C O U R S E $\rightarrow$ C E O R S U
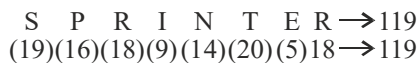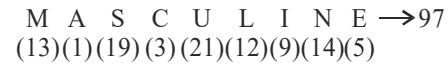(3)(15)(21)(18)(19)(5)   (3)(5)(15)(18)(19)(21)
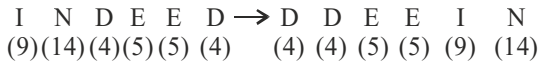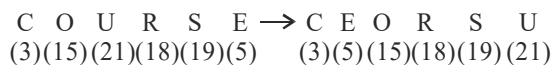
67. (c) F R U C T U S $\rightarrow$ 108
(6)(18)(21)(3)(20)(21)(19)

$6 + 18 + 21 + 3 + 20 + 21 + 19 = 108$
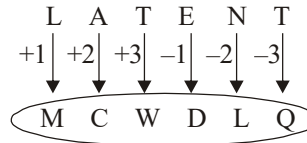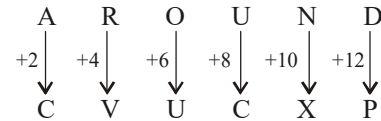
Sum of the place value of all alphabets

S P R I N T E R $\rightarrow$ 119
(19)(16)(18)(9)(14)(20)(5)18 $\rightarrow$ 119

Similarly,

M A S C U L I N E $\rightarrow$ 97
(13)(1)(19)(3)(21)(12)(9)(14)(5)

68. (a)
Letter	Code
C/A	7/9
R	5
D	3

69. (a) As,

B U T T E R

$+1$ $+2$ $+3$ -1 -2 -3

C W W S C O

Similarly,

L A T E N T

$+1$ $+2$ $+3$ -1 -2 -3

M C W D L Q

70. (d) As,

A R O U N D

$+2$ $+4$ $+6$ $+8$ $+10$ $+12$

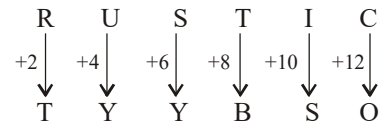C V U C X P

Similarly,

R U S T I C

$+2$ $+4$ $+6$ $+8$ $+10$ $+12$

T Y Y B S O

71. (d) Pattern is that-
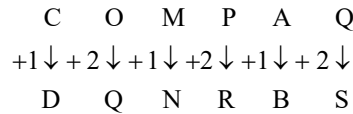
DXF $\rightarrow (4 + 24 + 6) \times 3 = 102$
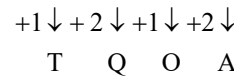
URO $\rightarrow (21 + 18 + 15) \times 3 = 162$

Similarly,

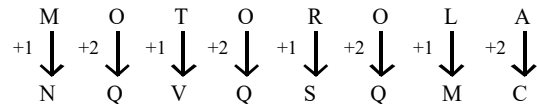LNZ $\rightarrow (12 + 14 + 26) \times 3 = 52 \times 3 = 156$

72. (c) As,

C O M P A Q

$+1\downarrow +2\downarrow +1\downarrow +2\downarrow +1\downarrow +2\downarrow$

D Q N R B S

And S O N Y

$+1\downarrow +2\downarrow +1\downarrow +2\downarrow$

T Q O A

Similarly,

M O T O R O L A

$+1\downarrow +2\downarrow +1\downarrow +2\downarrow +1\downarrow +2\downarrow +1\downarrow +2\downarrow$

N Q V Q S Q M C

73. (a) Pattern is that sum of reverse position of letters and number of letters in word.

So,

S + Y + M + B + O + L = 6

$\downarrow\ \downarrow\ \downarrow\ \downarrow\ \downarrow\ \downarrow$

$8 + 2 + 14 + 25 + 12 + 15 = 76$

Hence, required code $= 76 + 6 = 82$

6 Blood Relation

MEANING OF BLOOD RELATION

Blood relation does mean biological relation. Remember a wife and husband are met biologically related but they are biological parents of their own children. Similarly, brother, sister, paternal grandfather, paternal grandmother maternal grandfather, maternal grandmother, grandson, granddaughter, niece, cousin etc. are our blood relatives.

TYPES OF BLOOD RELATIONS

There are mainly two types of blood relatives:
(i) Blood relation from paternal side
(ii) Blood relation from maternal side
Now, we will discuss both kind of relations one-by one.
(i) **Blood relation from paternal side :** This type of blood relation can be further subdivided into three types:
(a) **Past generations of father :** Great grandfather, great grandmother, grandfather, grandmother etc.
(b) **Parallel generations of father:** Uncles (Brothers of father). aunts (sisters of father) etc.
(c) **Future generations of father:** Sons, daughters, grandsons, granddaughters etc.
(ii) **Blood relation from maternal side:** This type of blood relations can also be subdivided into three types:
(a) **Past generations of mother:** Maternal great grandfather, maternal great grandmother, maternal grandfather, maternal grandmother etc.
(b) **Parallel generations of mother:** Maternal uncles, maternal aunts etc.
(c) **Future generations of mother:** Sons, daughters, grandsons, granddaughters etc.
In the examinations, the questions are given in complicated way. In other words, in the given questions, the easy relationship takes the complicated form and examinees are expected to solve this complication in order to find out the correct answer. How does an examinee get aid of this complication? For this, an examinee sees the given data in the question with a serious eye; then tries to establish relation among elements of given data on the basis of certain logic and finally finds out the required answer. In fact complications in the asked question occur because of the given indirect relation. It does mean questions are in the form of indirect relation & one has to convert this indirect relation into direct relation. For example "only son of my father" does mean 'me' (myself). Here in place of 'me' indirect relation has been given in form of "only son of my father". Similarly, "the only daughter of the parents in laws of the husband of Vandana" does mean 'Vandana' herself. In this example also the sentence "the only daughter of the parents in laws of the husband of 'Vandana' has been given in the form of indirect relation.

Below are given some indirect relation in the form of a list. Examinees are required to learn them by heart. If are keeps this list in one's mind, he/she will find it very easy to solve problems based on blood relations.

1.	Son of father or mother	:	Brother
2.	Daughter of father or mother	:	Sister
3.	Brother of father	:	Uncle
4.	Brother of mother	:	Maternal uncle
5.	Sister of father	:	Aunt
6.	Sister of mother	:	Aunt
7.	Father of father	:	Grandfather
8.	Father of father's father	:	Great grand father
9.	Father of grandfather	:	Great grandfather
10.	Mother of father	:	Grandmother
11.	Mother of father's mother	:	Great grandmother
12.	Mother of grandmother	:	Great grandmother
13.	Father of mother	:	Maternal grandfather
14.	Father of mother's father	:	Great maternal grand father
15.	Father of maternal grandfather	:	Great maternal grandfather
16.	Mother of mother	:	Maternal grandmother
17.	Mother of mother, mother	:	Great maternal grandmother
18.	Mother of maternal grandmother	:	Great maternal grandmother
19.	Wife of father	:	Mother
20.	Husband of mother	:	Father
21.	Wife of Grandfather	:	Grandmother
22.	Husband of Grandmother	:	Grandfather
23.	Wife of son	:	Daughter-in-law
24.	Husband of daughter	:	Son-in-law
25.	Brother of Husband	:	Brother-in-law
26.	Brother of wife	:	Brother-in-law
27.	Sister of Husband	:	Sister-in-law
28.	Sister of wife	:	Sister-in-law
29.	Son of brother	:	Nephew
30.	Daughter of brother	:	Niece
31.	Wife of brother	:	Sister-in-law
32.	Husband of sister	:	Brother-in-law

33.	Son of sister	:	Nephew
34.	Daughter of sister	:	Niece
35.	Wife of uncle	:	Aunt
36.	Wife of maternal uncle	:	Aunt
37.	Son/daughter of uncle/Aunt	:	Cousin
38.	Son/daughter of maternal uncle/maternal aunt	:	Cousin
39.	Son/daughter of sister of Father	:	Cousin
40.	Son/daughter of sister of Mother	:	Cousin
41.	Only son of grandfather	:	Father
42.	Only daughter of maternal grandfather	:	Mother
43.	Daughter of grandfather	:	Aunt
44.	Sons of grandfather other than father	:	Uncle
45.	Son of maternal grandfather /maternal grand mother	:	Maternal Uncle.
46.	Only daughter in law of grandfather/ grandmother	:	Mother
47.	Daughters in law of grandfather/ grandmother	:	Aunt other than mother
48.	Daughters-in-law of maternal grandfather/ maternal grandmother	:	Aunt maternal grandmother
49.	Neither brother nor sister	:	Self

SOME IMPORTANT INFORMATION ABOUT BLOOD RELATION

A. Without the information of gender, no relationship can be established between two people. For example, If given that R is the child of P & Q, then we can only say that P & Q are the parents of R. But we can not find out:
(i) R is the son of P & Q or R is the daughter of P & Q.
(ii) Who is mother of R and who is father of R.
But if we have given that P is a male, Q is a female and R is male, then we can easily say that R is the son of P and Q. Further we can also say that P is father of R and Q is mother of R.
B. Gender can not be decided on the basis of name. For example in Sikh community the names like Manjit, Sukhvinder etc. are the names of both male and female. Similarly, in the Hindu Community 'Suman' is the name of both male and female.

Remember: Solution Tips
(a) While solving blood relation based question, first of all find out that two persons between whom a relationship has to be established.
(b) Next, try to find out middle relation
(c) Finally findout the relationship between two persons to be identified for this purpose.

Type of problems
(1) General problems of blood relation
(2) Blood relation based on family tree
Now, we will discuss all the three types of problems one by one
(1) General problem of blood relation
Sample Q: Pointing towards a photograph, Mr. Sharma said, "She is the only daughter of mother of my brother's sister." How is Mr. Sharma related to the lady in the photograph?

(a) Cousin (b) Sister
(c) Aunt (d) Daughter in law
Ans. Here we have to find relationship between Mr. Sharma & the lady in the photograph.
Mother of my brother's sister does mean my (Mr. Sharma's) mother. Only daughter of Mr. Sharma's mother does mean "sister of Mr. Sharma". Hence option (b) is the correct answer.

(2) Blood relation based on family tree
Sample Q: Q is the brother of C and C is the sister of Q. R and D are brother and sister. R is the son of A while A & C are wife and husband. How is Q related with D.
Ans. For such type of question a family tree is made in which some symbols are used as below:
'⇔' is used for husband & wife.
'___' is used for brother & sister
'|' is used for parents (father or mother). Parents are put on top while children are put at the bottom.
'−' or minus sign is used for female
'+' or plus sign is used for male.
Now adopting and using the above given symbols we can make a family tree and solve the given problem, let us see the family tree for sample question:
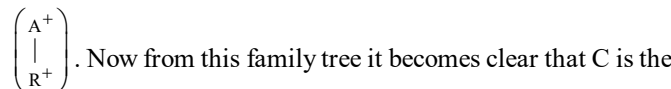Family+tree:

$$A^+ \longleftrightarrow C^- \longrightarrow Q^+$$
$$|$$
$$R^+ \longrightarrow D^-$$
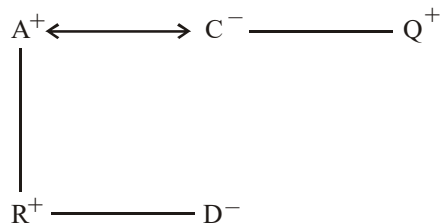
As per the question Q is the brother of c and c is the sister of Q. Hence relation between C & Q has been presented as $\left(C^- — Q^+\right)$ where '−' sign above C makes it clear that C is a female and '+' sign above 'Q' makes it clear that Q is a male.
Similarly for R and D. The presentation $\left(\overset{+}{R} — D^-\right)$ has been made. Further according to the question.
A and C are having a husband and wife relationship and hence this has been presented as $\left(\overset{+}{A} \Leftrightarrow C^-\right)$. As it is already given that C is the sister of Q and A and C are wife and husband, this becomes clear that A is the male member of the family and this is the reason A has '+' as its gender sign. Lastly, the vertical line gives father and son relationship and has been presented as $\begin{pmatrix} A^+ \\ | \\ R^+ \end{pmatrix}$. Now from this family tree it becomes clear that C is the mother of R and D and as Q is the brother of C, then Q will definitely be the maternal uncle of R & D. Hence we can say that Q is the maternal uncle of D and this is the required answer for our sample question.