

CHAPTER 01

Analogy

Analogy' means 'similarity', i.e. having similar features. Analogy test is an inference of similarity between two relations.

In it, words are used between which specific logical relations exist. It is a comparison between two elements that are usually thought to be different, but have something in common.

Questions on analogy test the ability of a candidate to understand the relationship between two given elements and apply the same relationship to find the one asked in the question.

Analogy can be of four types from which questions are generally asked in competitive exams.

1. Word Analogy- In questions based on word analogy, two words are given related to each other in some way. The candidate has to find that relationship and apply the same to choose the correct alternative which is either in the form of a word or a pair of words. Some of the important word relationships are as following

- **Types of Relationship:**

- 1. Synonymous relationship-** Slim : Thin, Meet : Contact
- 2. Opposite relationship-** Poor : Rich, Never : Always
- 3. Cause and effect relationship-** Shoot : Kill, Fast : Hunger
- 4. Game and place of playing-** Tennis : Court, Boxing : Ring
- 5. Worker & Tool-** Writer : Pen, Hunter : Gun
- 6. Tool & Object-** Pen : Paper, Eraser : Paper
- 7. Whole & Part-** Car : Wheel
- 8. Part & Whole-** Handle : Chair
- 9. Word and Intensity-** Hot : Warm
- 10. Classification-** Cow : Mammal, Ice : Water
- 11. Function-** Surgeon : Operates
- 12. Male and female-** Bull : Cow, Brother : Sister
- 13. Sequential-** Morning : Afternoon, Nine : Ten
- 14. Finished Product & Raw Material-** Bread : Flour, Fabric : Yarn
- 15. Quantity & Unit-** Mass : Kilogram, Length : Metre
- 16. Utility relationship-** Chair : Sitting, Bed : Sleeping
- 17. Comparative-** Black : Coal, Red : Blood

- 18. Animal and Sound-** Snake : Hiss, Duck : Quack
- 19. Place relationship-** Delhi : Red fort, Punjab : Ludhiana
- 20. Purpose relationship-** Sandpaper : Abrasion
- 21. Specialist & Subject-** Heart : Cardiologist, Skin : Dermatologist
- 22. Individual and Young ones-** Man : Child, Cow : Calf
- 23. Country-Capital-** India : New Delhi, Japan : Tokyo
- 24. Country-Currency-** Iraq : Dinar, Russia : Rouble
- 25. Instrument & Measurement-** Barometer : Pressure, Hygrometer : Humidity
- 26. Individual & Group-** Sailor : Crew, Cattle : Herd
- 27. Individual & Dwelling-** Dog : Kennel, Horse : Stable
- 28. Study & Topic-** Ornithology : Birds, Seismology : Earthquakes
- 29. Worker & Working place-** Chef : Kitchen, Teacher : School
- 30. Worker & Product-** Farmer : Crop, Poet : Poem, Chef : Food

Example 1: Find out the missing word from the given alternatives, which bears the same relationship to the third/fourth word, as the first two bear

Cattle : Herd :: Sheep : ?

- (a) Flock (b) Swarm (c) Shoal (d) Mob

Sol. (a) Herd is a group of cattle. Similarly, flock is a collection of sheep.

Example 2: Cat is related to mouse in the same way as

Bird is related to

- (a) Worm (b) Snake (c) Animal (d) Crow

Sol. (a) In this case, cat feeds on Mouse. Similarly, bird feeds on worm.

Example 3: Find a pair similar to ‘**Arrow : Bow**’ from the following.

- (a) Football : Hand (b) Salad : Knife (c) Bullet : Rifle (d) Smoke : Water

Sol. (c) As, arrow is released with the help of bow, similarly a bullet is released with the help of rifle.

Example 4: Select the alternative that does not have a similar relationship as the given pair.

Forward : Backward

(a) Hope : Despair (b) Love : Hate (c) Anger : Wrath (d) Light : Dark

Sol. (c) In the given pair both the words are opposite to each other.

But in pair (c) i.e. Anger : Wrath, both the words have similar meaning.

Example 5: Out of the four given alternatives, choose that alternative as your answer which is similar to the given words.

L B W : Slip : Cover

(a) Dence (b) Dribble (c) Corner (d) Chinaman

Sol. (d) LBW, slip and cover, all are related to cricket.

Similarly, chinaman is a term used in cricket.

Example 6: Find the similarity in the following.

Elephant, Camel, Buffalo, Giraffe

(a) The milk produced by all of them cannot be consumed by people

(b) All of them have horns

(c) None of them are mammals

(d) The young ones of all of them are called calf

Sol. (d) The young ones of elephant, camel, buffalo and giraffe are called calf.

2. Letter Analogy- In letter or alphabet analogy, both of question and answer pairs consists of letters or alphabets. The candidate has to examine the question pair and find the relationship on the basis of which either a group of letters or a pair of group of letters is to be find out.

- To solve these questions the candidate has to remember the positional values of letters in English alphabetical order.

Forward: 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

Alphabet: 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

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

Example 7: Complete the second pair in the same way as first pair **CD : GH :: LM : ?**

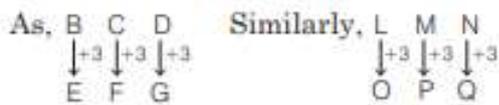
- (a) DC (b) EG (c) AB (d) IK

Sol. (c) As, in the first term i.e CD, the letters are consecutive and the second letter comes after the first letter and so is the term GH. Similarly, LM and AB follows the same pattern.

Example 8: Choose the pair from the given alternatives which is similar to the given pair **BCD : EFG :: ? : ?**

- (a) LMN : OPQ (b) PRS : STV (c) ABC : MNO (d) XWV : ZYZ

Sol. (a)



3. Number Analogy: In this analogy, either a number or a group of numbers are related to each other in the first pair according to a certain pattern. The candidates has to find that pattern and choose the related number or a pair of numbers.

Example 9: Choose the number from the given alternatives which will complete the second pair in the same way as first pair.

3 : 11 :: 7 : ?

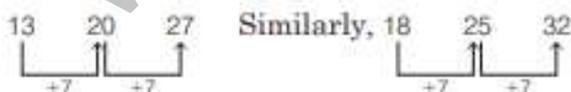
- (a) 22 (b) 29 (c) 18 (d) 51

Sol. (d) As, $3^2 + 2 = 11$ Similarly, $7^2 + 2 = 51$

Example 10: Find the set among the four sets which is like the given set **(13 : 20 : 27)**.

- (a) (3 : 11 : 18) (b) (18 : 25 : 32) (c) (18 : 27 : 72) (d) (7 : 14 : 28)

Sol. (b)



4. Mixed Analogy: In this type of analogy, letters and numbers are given, following a certain relationship. The relationship may be based on the position of alphabets or letters, sum or product of the position of alphabet or letters etc. The candidate is required to understand the relationship and complete the analogy.

Example 11: Complete the second pair in the same way as first

NEWS : 14, 5, 23, 19 :: PAPER : ?

(a) 16, 5, 16, 1, 18 (b) 18, 5, 16, 1, 16 (c) 16, 1, 16, 5, 18 (d) 32, 2, 32, 10, 36

Sol. (a) Here, each letter is assigned its positional value in forward order.

So, PAPER → 16, 1, 16, 5, 18

Practice Questions

1. Goitre is related to Iodine as Anaemia is related to

(a) Vitamin (b) Blood (c) Iron (d) Weakness

2. Needle is related to Thread as Pen is related to

(a) Ink (b) Cap (c) Paper (d) Wood

3. If **H O₂ : Hydrogen, then KOH :**

(a) Cobalt (b) Phosphorous (c) Potassium (d) Krypton

Directions (Q. Nos. 4-8) In each of the following questions, there is a certain relationship between two given words on the left side of :: and one word is given on the right side of :: while another words is to be found from the given alternatives having the same relation with this word as the words of the given pair bear.

4. **Consolation : Grief :: Sedative : ...**

(a) Chloroform (b) Anesthesia (c) Pain (d) Burn

5. **Bird : Wings :: Fish : ?**

(a) Gills (b) Head (c) Fins (d) Legs

6. **Contemporary : Historic :: ... : Ancient**

(a) Past (b) Classic (c) Modern (d) Future

7. **Blunt : Sharp :: Sow :**

(a) Reap (b) Seeds (c) Farmer (d) Crop

8. Circle : Circumference :: Square :

- (a) Sides (b) Area (c) Perimeter (d) Diagonal

Directions (Q. Nos. 9-11) The following questions consist of two words each that have a certain relationship to each other followed by four lettered pair of words.

Choose the pair having the same relationship.

9. Hands : Gloves

- (a) Bank : Fog (b) Socks : Feet (c) Fish : Water (d) Legs : Shoes

10. Ass : Bray

- (a) Flies : Squeak (b) Hen : Mew (c) Fox : Snout (d) Sheep : Bleat

11. Brook : River

- (a) Pen : Paper (b) Yard : Alley (c) Path : Highway (d) Vein : Artery

12. Select the alternative that has a different relationship as the given pair.

Inside : Outside

- (a) Day : Night (b) Sun : Star (c) Light : Dark (d) White : Black

Directions (Q. Nos. 13-15) Out of the four given alternatives, choose that alternative as your answer which is similar to the given words.

13. Pen : Pencil : Rubber

- (a) Page (b) Cell (c) Pillow (d) TV

14. Ohm : Watt : Ampere

- (a) Electricity (b) Volt (c) Hour (d) Light

15. Ear : Nose : Lips

- (a) Finger (b) Lungs (c) Heart (d) Kidney

Directions (Q. Nos. 16-18) Find out the common feature among the given words and pick the alternative that mentions the properties common to the given words.

16. Nose : Eyes : Ears

- (a) They are internal part of human body (b) They are not the external part of human body
(c) They are parts of the body below waist (d) They are parts of the body above neck

17. Dhoni : Yuvraj : Dravid

- (a) Cricketers (b) Athlete (c) Politicians (d) Singers

18. Cinema : Press : Television

- (a) They are means of entertainment (b) They are means of mass media
(c) All are public undertakings (d) They give word wide news

Directions (Q. Nos. 19-25) In these questions, there is a certain relationship between the two terms to the left of :: and the same relationship exists between the two terms to the right.

One of the terms either to the left or to the right is missing. Find out this term.

19. KMF : LLH :: RMS : ?

- (a) SLR (b) SLU (c) SSU (d) SUS

20. FJUL : BOQQ :: LHRX : ?

- (a) BKPR (b) MNCC (c) HRYY (d) HMNC

21. EJOT : VQLG :: BGLQ : ?

- (a) AEIM (b) AFKP (c) YTOJ (d) ZUPK

22. JLNP : OMKI :: SUWY : ?

- (a) FGHI (b) MLKJ (c) PLHD (d) XVTR

23. A F K P : B G L Q :: ? : D I N S

- (a) C H M R (b) D N I S (c) H D K P (d) C F M S

24. FLOWER : REWOLF :: FRUITS : ?

- (a) STRUIF (b) STUIRF (c) STIURF (d) STUIFR

25. B J N T : C I O S :: D H P V : ?

- (a) E G Q U (b) E L Q W (c) E L P V (d) E I O U

Directions (Q. Nos. 26-30) Each of these questions consists of a pair of letters or groups having a certain relationship followed by alternatives.

Select the pair similarly related to the given pair.

26. BC : FG

- (a) PQ : ST (b) HI : LM (c) AD : PQ (d) JK : LM

27. MN : OP

- (a) AD : GH (b) AB : PQ (c) QR : ST (d) RS : TV

28. CEH : IKN

- (a) ACD : FHJ (b) CDF : IJK (c) EFH : KMN (d) OQT : UWZ

29. LLAMS : SMALL

- (a) SRENID : DINERS (b) CHART : TRACH (c) BARK : KRAB (d) TREE : EERT

30. LOWER : WORLE

- (a) GLAZE : AGELZ (b) AMONG : OMNAG
(c) WORDS : ROSWD (d) ENTRY : RNYET

Directions (Q. Nos. 31-38) In these questions, there is a certain relationship between two given numbers on the left side of :: and one number is given on the right side of :: while another number is to be found from the given alternatives.

Find the missing term.

31. 18 : 30 :: 36 : ?

- (a) 54 (b) 62 (c) 64 (d) 66

32. 3 : 243 :: 5 : ?

- (a) 425 (b) 465 (c) 546 (d) 3125

33. 6 : 222 :: 7 : ?

- (a) 210 (b) 336 (c) 343 (d) 350

34. 68 : 130 :: ? : 350

- (a) 210 (b) 216 (c) 222 (d) 240

35. 42 : 56 :: 72 : ?

- (a) 81 (b) 90 (c) 92 (d) 100

36. 7 : 56 :: 9 : ?

- (a) 63 (b) 81 (c) 90 (d) 99

37. 42 : 56 :: 110 : ?

- (a) 18 (b) 132 (c) 136 (d) 140

38. 48 : 122 :: 168 : ?

- (a) 215 (b) 225 (c) 290 (d) 292

Directions (Q. Nos. 39-42) Each of these questions consists of a pair of numbers that have a certain relationship to each other followed by four other pairs of numbers given as alternatives.

Select the pair having the same relation.

39. 27 : 9

- (a) 64 : 8 (b) 125 : 5 (c) 135 : 15 (d) 729 : 81

40. 5 : 35

- (a) 7 : 77 (b) 9 : 45 (c) 11 : 55 (d) 3 : 24

41. 8 : 256

- (a) 7 : 343 (b) 9 : 243 (c) 10 : 500 (d) 5 : 75

42. 7 : 24

- (a) 30 : 100 (b) 23 : 72 (c) 19 : 58 (d) 11 : 43

Directions (Q. Nos. 43-45) In each of the following questions, choose that set of numbers from the four alternatives, which is similar to the given set.

43. (2, 14, 16)

- (a) (2, 7, 8) (b) (2, 9, 16) (c) (3, 21, 24) (d) (4, 16, 18)

44. (32, 24, 8)

- (a) (26, 32, 42) (b) (34, 24, 14) (c) (24, 16, 0) (d) (42, 34, 16)

45. (525, 813, 714)

- (a) 353 (b) 329 (c) 606 (d) 520

Directions (Q. Nos. 46-55) In each of these questions, find out the missing term from the given alternatives.

46. C : 16 :: F : ?

- (a) 30 (b) 40 (c) 49 (d) 50

47. M×N : 13×14 :: F×R : ?

- (a) 7×19 (b) 5×17 (c) 14×15 (d) 6×18

48. MK : :: $\frac{169}{121}$ JH : ?

- (a) $\frac{100}{64}$ (b) $\frac{100}{81}$ (c) $\frac{64}{120}$ (d) $\frac{81}{100}$

Hints & Solutions:

1. (c) Goitre is caused by the deficiency of Iodine. Similarly, Anaemia is caused by the deficiency of Iron.

2. (a) Thread is required by the Needle to function. Similarly, Ink is required by the Pen to function.

3. (c) As, $H_2O \Rightarrow$ Hydrogen

Here, 'H' signifies Hydrogen.

Similarly,

$KOH \Rightarrow$ Potassium

Here, 'K' signifies Potassium.

4. (c) As, consolation soothe the grief, Similarly, sedative alleviate the pain.

5. (c) As, bird uses wings to fly. Similarly, fish uses fins to swim.

6. (c) Contemporary and historic are opposite to each other, similarly modern and ancient are opposite to each other.

7. (a) As, blunt and sharp are opposite to each other, similarly sow and reap are opposite to each other.

8. (c) As, the boundary of the circle is known as circumference, similarly the boundary to the square is known as perimeter.

9. (d) Hands are the parts of the body where Gloves are worn. Similarly, Legs are the parts of the body where Shoes are worn.

10. (d) Bray is the sound produced by Ass. Similarly, Bleat is the sound produced by Sheep.

11. (c) As, River is bigger form of brook. Similarly, Highway is bigger form of path.

12. (b) In the given pair, both the words are opposite to each other. But in pair (b) both the words, i.e. sun and star are similar in nature.

13. (a) As, Pen, Pencil and Rubber are stationary items. Similarly, page is also a stationary item

14. (b) As, Ohm, Watt, Ampere are measurement units of electricity. Similarly, volt is the measurement unit of electricity.

15. (a) Ear, Nose and Lips all are external parts of the human body and so is the finger.

16. (d) 'Nose', 'Eyes' and 'Ears' are the parts of human body above neck.

17. (a) It is clear that the common feature, among Dhoni, Yuvraj and Dravid is that they are cricketers.

18. (b) All are means of mass media.

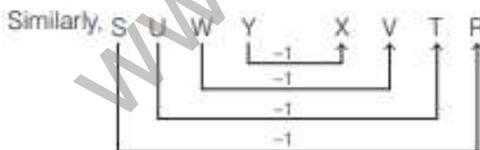
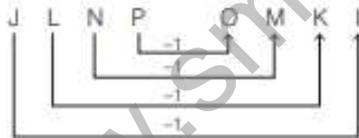
19. (b) As, $\begin{matrix} K & M & F \\ \downarrow +1 & \downarrow -1 & \downarrow +2 \\ L & L & H \end{matrix}$ Similarly, $\begin{matrix} R & M & S \\ \downarrow +1 & \downarrow -1 & \downarrow +2 \\ S & L & U \end{matrix}$

20. (d) As, $\begin{matrix} F & J & U & L \\ \downarrow -4 & \downarrow +5 & \downarrow -4 & \downarrow +5 \\ B & O & Q & Q \end{matrix}$
 Similarly, $\begin{matrix} L & H & R & X \\ \downarrow -4 & \downarrow +5 & \downarrow -4 & \downarrow +5 \\ H & M & N & C \end{matrix}$

21. (c) Here, each letter is replaced by an alphabet which occupies the same place as the letter in reverse English alphabetical order.

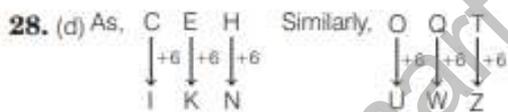
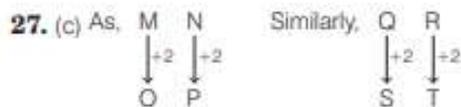
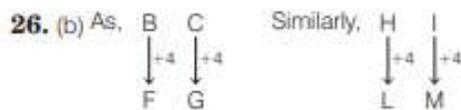
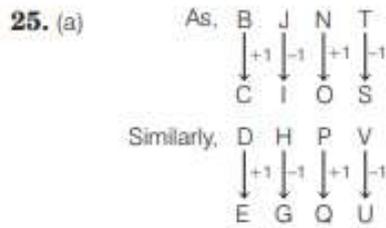
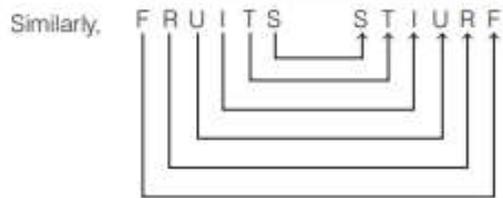
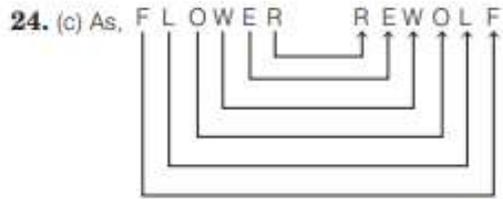
So, B G L Q \rightarrow Y T O J

22. (d) As,

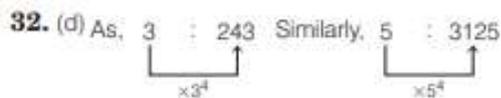
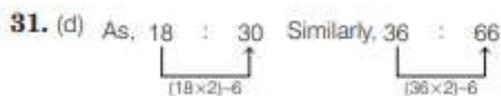
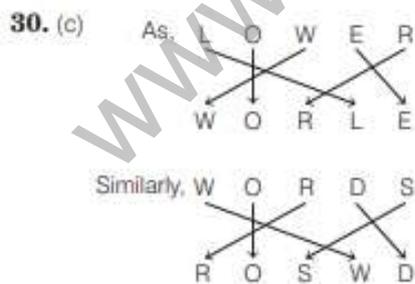


23. (a)

As, $\begin{matrix} A & F & K & P \\ \downarrow +1 & \downarrow +1 & \downarrow +1 & \downarrow -1 \\ B & G & L & Q \end{matrix}$ Similarly, $\begin{matrix} C & H & M & R \\ \downarrow +1 & \downarrow +1 & \downarrow +1 & \downarrow -1 \\ D & I & N & S \end{matrix}$



29. (a) The second group is a meaningful word formed by reversing the order of the letters of the first group.



33. (d) As, $6, (6^3 + 6) = 222$

Similarly, $7, (7^3 + 7) = 350$

34. (c) As, $68 = 4^3 + 4 : 130 = 5^3 + 5$

Similarly, $222 = 6^3 + 6 : 350 = 7^3 + 7$

35. (b) As, $42 = 6 \times 7 : 56 = 7 \times 8,$

Similarly, $72 = 8 \times 9$

So, missing number = $9 \times 10 = 90$

36. (c) As, $7 : 56$ Similarly, $9 : 90$
 $\begin{array}{ccc} \uparrow & & \uparrow \\ 7 \times (7+1) & & 9 \times (9+1) \end{array}$

37. (b) As, $42 = 7 \times 6$ and $56762 = 7 \times (6 + 2)$

Similarly, $110 = 11 \times 10$

So, the required number = $11 \times (10 + 2) = 11 \times 12 = 132$

38. (c) As, $48 : 122$
 $\begin{array}{ccc} \uparrow & & \uparrow \\ (7^2 - 1) & & (7+4)^2 + 1 \end{array}$
Similarly, $168 : 290$
 $\begin{array}{ccc} \uparrow & & \uparrow \\ (13^2 - 1) & & (13+4)^2 + 1 \end{array}$

39. (d) As, $27 : 9 \Rightarrow 3^3 : 3^2$

Similarly, $729 : 81 \Rightarrow 9^3 : 9^2$

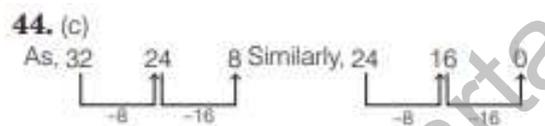
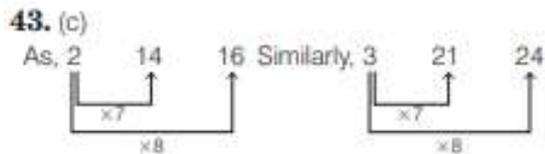
40. (a) The first number is multiplied by the next prime number to obtain the second number.
As, $5 \times 5 : 7$. Similarly, $7 \times 7 : 11$

41. (c) As, $8 : 256 \Rightarrow 8 : \frac{8^3}{2}$

Similarly, $10 : 500 \Rightarrow 10 : \frac{10^3}{2}$

42. (b) As, $7 : 24 \Rightarrow 7 : (7 \times 3) + 3$

Similarly, $23 : 72 \Rightarrow 23 : (23 \times 3) + 3$



45. (c) As, $525 \Rightarrow 5 + 2 + 5 = 12$

$813 \Rightarrow 8 + 1 + 3 = 12$

$714 \Rightarrow 7 + 1 + 4 = 12$

Similarly, $606 = 6 + 0 + 6 = 12$

46. (c) C is the 3rd letter of the English alphabet and $(3 + 1)^2 = 16$

Similarly, F is the 6th letter of the English alphabet and $(6 + 1)^2 = 49$

47. (d) M and N are 13th and 14th letters of the English alphabets, respectively.

So, $M \times N$ corresponds to 13×14 . Similarly, F and R are 6th and 18th letters of the English alphabet, respectively. So, $F \times R$ corresponds to 6×18 .

48. (a) M and K are 13th and 11th letters of English alphabet, respectively and $\frac{13^2}{11^2} = \frac{169}{121}$

Similarly, J and H are 10th and 8th letters of the English alphabet, respectively and $\frac{10^2}{8^2} = \frac{100}{64}$

49. (b) T and J are 20th and 10th letters of the English alphabet, respectively and $20 \div 10 = 2$.

Similarly, X and H are 24th and 8th letters of the English alphabet, respectively and

$$24 \div 8 = 3.$$

50. (b) Here, each letter is assigned its positional value in reverse English alphabetical order.

As, $\frac{E}{H} = \frac{22}{19}$

Similarly, $\frac{B}{I} = \frac{25}{18}$

51. (b) As, $13M \xrightarrow{-1} 12$

$$12L \xrightarrow{-1} 11$$

$$15O \xrightarrow{-1} 14$$

i.e. MLO : 121114

Similarly, $07G \xrightarrow{-1} 06$

$$10J \xrightarrow{-1} 09$$

$$12L \xrightarrow{-1} 11$$

\therefore GJL : 060911

52. (a) As, GREAT has 5 letters, it is represented by square of 5 i.e. 25.

Similarly, NUMBER has 6 letters. So, it is represented by square of 6 i.e. 36.

53. (a) Here, each letter is represented by its position in English alphabetical order.

As,	S	T	B	P	Similarly,	M	N	G	O
	↓	↓	↓	↓		↓	↓	↓	↓
	19	20	2	16		13	14	7	15

54. (d) As, X M A E

$$\begin{array}{cccc}
 & X & M & A & E \\
 & \downarrow & \downarrow & \downarrow & \downarrow \\
 & 24 & 13 & 1 & 5 \\
 & \downarrow & \downarrow & \downarrow & \downarrow \\
 & 2+4 & 1+3 & 1 & 5 \\
 & \downarrow & \downarrow & \downarrow & \downarrow \\
 & 6 & 4 & 1 & 5 = 16 \\
 \text{Similarly,} & V & T & N & G \\
 & \downarrow & \downarrow & \downarrow & \downarrow \\
 & 22 & 20 & 14 & 7 \\
 & \downarrow & \downarrow & \downarrow & \downarrow \\
 & 2+2 & 2+0 & 1+4 & 7 \\
 & \downarrow & \downarrow & \downarrow & \downarrow \\
 & 4 & 2 & 5 & 7 = 18
 \end{array}$$

55. (a) Here, each letter is assigned its position value in reverse English alphabetical series.

$$\text{As, } \frac{G \times Q}{Q} = \frac{20 \times 10}{10} = 20$$

$$\text{Similarly, } \frac{B \times V}{V} = \frac{25 \times 5}{5} = 25$$

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