



ACE SSC

GENERAL INTELLIGENCE & REASONING

for SSC, Railways & Other Govt Examinations

Latest Edition Includes

- Concepts with Detailed Approach & Examples
- Basic to Advance Level Questions with Detailed Solutions
- Includes Previous Years' Questions Asked in SSC & Railway Exams
- Useful for NRA CET as well

2300+
Questions

**with Detailed
Solutions**

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Part A

Verbal Reasoning

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Analogy

Analogy means correspondence or similarity. This word has been derived from two words "Ana" means "Relation" and "Logy" means "Information". It shows a comparison to show a similarity between two things. The similarity shows different relation such as unit, country, work, etc.

There are some common relationships which are given below as :

TYPE – 1 :

- (A) Country and capital relationship: This relationship shows that 1st object is country and 2nd object shows its capital.

For example: China : Beijing :: India : New Delhi

- (a) France : Paris (b) Sri Lanka : Colombo
(c) Australia : Canberra (d) Austria : Vienna
(e) Canada : Ottawa (f) Italy : Rome
(g) Pakistan : Islamabad (h) Cuba : Havana

- (B) State and capital:

For Example: Rajasthan : Jaipur.

Rajasthan is a state and its capital is Jaipur. Some more examples are given below :

- (a) Tamilnadu : Chennai
(b) Assam : Dispur
(c) Bihar : Patna
(d) Gujrat : Ahmedabad
(e) Meghalaya : Shillong
(f) West bengal: Kolkata
(g) Sikkim : Gangtok
(h) U.P : Lucknow

- (C) Country and currency:

Example: India : Rupee

India is related to rupee as its currency.

Some more examples are given below :

- (a) Korea : Won
(b) USA : Dollar
(c) China : Renminbi
(d) Tazakistan : Somoni
(e) UK : British Pound
(f) France : Euro
(g) Nepal : Nepalese rupee
(h) Germany : Euro

- (D) Country and name of parliament:

Example : USA : Congress

- (a) Libya : Majilis an-Nuwwab
(b) Malaysia : Parliament
(c) South Korea : National Assembly
(d) Japan : Diet
(e) Nepal : Rashtriya Panchayat
(f) Russia : Duma
(g) UK : Parliament
(h) Bangladesh : Jatia Sansad

- (E) Instrument and measurements and units :

- (a) Barometer : Atmospheric pressure
(b) Hygrometer : Humidity
(c) Lactometer : Purity of milk
(d) Viscometer : Viscosity of liquid
(e) Cardiograph : Movement of heart beat
(f) Frequency : Hertz
(g) Force : Newton
(h) Time : Second

- (F) Country and its national games :

Example: India : Hockey

- (a) Maldives : Football
(b) Japan : Sumo
(c) USA : Baseball
(d) U.K. : Cricket
(e) South Korea : taekwondo
(f) Indonesia : Badminton
(g) China : Table tennis
(h) Sri Lanka : Volleyball

- (G) Individual and group :

Example: Goods : Stock

A lot of goods called as stock.

Some more examples are given below :

- (a) Bees : Swarm (b) Sheep : Flock
(c) Flowers : Bouquet (d) Robbers : Gang
(e) Musicians : Band (f) Ministers : Council
(g) Soldiers : Army (h) Grapes : Bunch

- (H) Animal and its young one :
Example: Cow : Calf
Calf is the young one of cow.
Some more examples are given below:
(a) Duck : Ducklings (b) Bear : Cub
(c) Frog : Tadpole (d) Man : Child
(e) Cat : Kitten (f) Sheep : Lamb
(g) Deer : Fawn
(h) Butterfly : Caterpillar
- (I) Individual/Things and their classes :
Example: Man : mammal
Man belongs to the class of mammal.
Some more examples are given below:-
(a) Snake : Reptile (b) Whale : Mammal
(c) Rat : Rodent (d) Table : Furniture
(e) Ostrich : Bird (f) Butterfly : Insect
(g) Pen : Stationery (h) Cup : Crockery
- (J) Animals/Things and their sounds:
(a) Coins : Jingle (b) Money : Gibber
(c) Snake : Hiss (d) Elephant : Trumpet
(e) Hen : Cackle (f) Rain : Patter
(g) Mice : Squeak (h) Drum : Beat
- (K) Male and Female:
(a) Monk : Nun (b) Wizard : Witch
(c) Stag : Doe (d) Master : Mistress
(e) Colt : Filly (f) Drone : Bee
(g) Bachelor : Spinster (h) Lord : Lady
- (L) Individual and dwelling place :
Example: Bee : Hive
A bee lives in a hive.
Some more examples are given below:-
(a) Lion : Den (b) Bird : Nest
(c) Horse : Stable (d) King : Palace
(e) Soldiers : Barracks (f) Spider : Web
(g) Eskimo : Igloo (h) Owl : Owlery
- (M) Games and place of playing:
Tennis : Court
Tennis is played in a court.
(a) Wrestling : Arena
(b) Cricket : Pitch
(c) Badminton : Court
(d) Race : Track
(e) Boxing : Ring
- (N) Professionals and their work places;
Example: Teacher : School.
Some more examples are given below :
(a) Servant : House (b) Clerk : Office
(c) Worker : Factory (d) Mechanic : Garage
(e) Warrior : Battlefield (f) Gambler : Casino
(g) Umpire : Pitch (h) Doctor : Hospital
- (O) Study and topic :
Example: Pedology : Soil.
Some more examples are given below:
(a) Pathology : Diseases
(b) Seismology : Earthquake
(c) Ornithology : Birds
(d) Mycology : Fungi
(e) Botany : Plants
(f) Cardiology : Heart
(g) Taxonomy : Classification
(h) Physiology : Human body
- (P) Product and material:
Example: Jewellery : Gold
Jewellery is made of Gold.
Some more examples are given below.
(a) Rubber : Latex (b) Furniture : Lumber
(c) Fabric : Yarn (d) Paper : Pulp
(e) Jaggery : Sugarcane (f) Metal : Ore
(g) Limestone : Cement
(h) Clothes of fabrics : Cotton
- (Q) Word and synonym :
Example: Inception : Beginning.
Both words are used for starting or source.
Some more examples are given below:-
(a) Paradox : Juxtaposition
(b) Vigorous : Active
(c) Proliferate : Generate
(d) Blame : Censure
(e) Adulation : Applause
(f) Diligent : Attentive
(g) Counsel : Advice
(h) Bravery : Fortitude

- (R) Word and Antonym : Some more example are given below:-
 Example : Absolve : Accuse
 (a) Accord : Disagreement (b) Bleak : Pleasant
 (c) Consent : Disagree (d) Cease : Begin
 (e) Efface : Maintain (f) Impute : Support
 (g) Jejune : Exciting (h) Judicious : Foolish
- (S) Disease and Causative Agent:
 Example : Cholera : Contaminated food and water.
 (a) Typhoid Fever : Food
 (b) Tetanus : Injured surface
 (c) Tuberculosis : Air
 (d) Rabies : Animal Bite
 (e) Influenza : Droplet infection
 (f) Malaria : Mosquito
 (g) Beef Tapeworm : Beef consumption
 (h) Eye worm : Deerfly

TYPE : 2 ALPHABETICAL ANALOGY

Alphabetical Analogy: It is second type of Analogy where one alphabetical letter or Word related to another word or letter with a certain relationship so, we have to establish the same relation between rest part of the question to maintain the given logic.

(1) ACE : GIK :: RTV : XZB

ACE is related to GIK in these two word the letters increase with six digit same as it is RTV change into XZB after increment of 6 letters.

In Alphabet analogy the change between two words having three rules which are:-

- (1) Increment and decrement in place value.
- (2) Opposite alphabets.
- (3) Cross-coded

1. Increment and decrement in place value :

Place value is defined as the numerical value of alphabet in alphabetical order. For example K is 11. Some example are given below.

(a) BE : GJ :: HK : MP

1st Letters BE is increased with five place value and change in GJ. Same according this rule HK after increment of 5 result will be MP.

(b) PMJ : NKH :: YUS : WSQ

(Decrement with 2 place value)

2. Opposite alphabets : The total alphabetical letters are 26, Break them in two half part.

Then,	1	2	3	4	5	6	7	8	9	10	11	12	13
	A	B	C	D	E	F	G	H	I	J	K	L	M
	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
	Z	Y	X	W	V	U	T	S	R	Q	P	O	N
	26	25	24	23	22	21	20	19	18	17	16	15	14

E	J	O	T	Y	C	F	I	L	O	R	U	X	F	L	R	X
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
5	10	15	20	25	3	6	9	12	15	18	21	24	6	12	18	24

● Opposite Letters (Trick to Learn)

<u>A</u> Z a d	<u>D</u> e w
<u>B</u> O Y	<u>F</u> U ll
<u>C</u> r a X	<u>G</u> r a n d <u>T</u> r a n k (G.T. Road)
<u>H</u> i g h <u>S</u> c h o o l	<u>K</u> a m l a <u>P</u> a s a n d (P.K.)
<u>I</u> n d i a n <u>R</u> a i l w a y	<u>L</u> O v e
<u>J</u> a c k & <u>Q</u> u e e n	<u>N</u> a r e n d r a <u>M</u> o d i

Ex. :- LEAP : OVZK :: CELLO : XVOOL

In LEAP every alphabet change with their opposite alphabet then it change as OVZK. For CELLO the result will be XVOOL.

- (a) DOWN : MDLW :: TYPE : VKBG
- (b) RELATION : IVOZGRLM :: CABINET : XZYRMVG

3. CROSS-CODED : CROSS-CODED is a term where given word is change with its letter into crossed form. It may be a combination of increment, decrement and opposite letters.

For example :- JUMBLE : FOYNU :: BONUSR : ?

J	U	M	B	L	E	B	O	N	U	S	R
X	X	X				X	X	X			
F	Q	Y	N	V	O	L	Y	F	M	I	H

- (a) WONDER ⇒ RESPECT
IVWMLD ⇒ GXVKHVI

(Cross-coding with opposite letter)

- (b) JUST : SHJI :: BITE : ATIX

(Opposite letters with increment of two place value)

J	U	S	T	⇒	B	I	T	E
↓	↓	↓	↓		↓	↓	↓	↓
Q	F	H	G		Y	R	G	V
+2 ↓	↓	↓	↓	+2	↓	↓	↓	↓
S	H	J	I		A	T	I	X

Type 3 : Number Analogy

Number analogy is another type of analogy. A number related to a given number in the same manner as third number pairs to another number. There are defined as mainly two types which are:-

1. Choosing a number related to a given number in the same manner as the two numbers of another given pair are related to each others.
2. Choosing a number set similar to a given number set.

For example :-

- (i) 11 : 111 :: 13 : 157

11 is related to 111 as $(121 - 10) = 111$

and 13 is related to 157 as $(169 - 12) = 157$

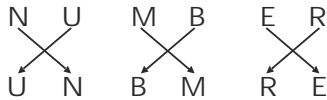
- (ii) A numerical set (40, 20, 10) is related to (32, 16, 8) as every upcoming digit is just half of previous digit.

In numerical analogy the number follow different types of logic. It can be square, cube, mathematical operation (multiplication, division etc.), sum of all numbers etc.

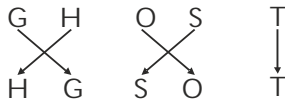
Note :- Always remember the logic between two number and objects must be follow any format or syntax. They have to be follow any mathematical operation and logic definitely.

Solved Examples

1. House : Rent :: Capital : ?
 (a) Interest (b) Investment
 (c) Country (d) Money
- Sol. (a); House is lent on rent. Similarly, capital earns interest.
2. NUMBER : UNBMRE :: GHOST : ?
 (a) HOGST (b) HOGTS
 (c) HGSOT (d) HGOST
- Sol. (c); Two adjacent letters are interchanged.

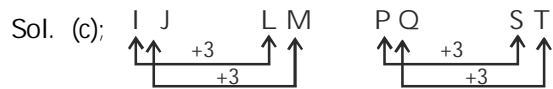


Similarly,



3. 18 : 30 :: 36 : ?
 (a) 64 (b) 66
 (c) 54 (d) 62
- Sol. (b); $18 \times 2 = 36$ and $36 - 6 = 30$.
 Therefore,
 $36 \times 2 = 72$ and $72 - 6 = 66$
4. France : Paris :: Italy : ?
 (a) Austria (b) Havana
 (c) Rome (d) Bolivia
- Sol. (c); Rome is the capital of Italy.
5. West Bengal : Kolkata :: Rajasthan : ?
 (a) Jaipur (b) Lucknow
 (c) Dispur (d) Chennai

- Sol. (a); Jaipur is the capital of Rajasthan.
6. 9 : 28 :: 56 : ?
 (a) 3 (b) 18
 (c) 112 (d) 169
- Sol. (d); $9 \times 3 + 1 = 28$
 $56 \times 3 + 1 = 169$
7. IJ : LM :: PQ : ?
 (a) TU (b) VW
 (c) ST (d) US



8. Writer : Pen :: Black smith : ?
 (a) Chisel (b) Saw
 (c) Hammer (d) Spade
- Sol. (c); Pen → main instrument for writer
 Hammer → main instrument for Blacksmith
9. 30 : 16 :: 102 : ?
 (a) 49 (b) 52
 (c) 61 (d) 98
- Sol. (b); $\frac{30}{2} + 1 = 16$; $\frac{102}{2} + 1 = 52$
10. Milk : Butter :: ? : ?
 (a) Banana : Fruit (b) Wood : Paper
 (c) Chilly : Spice (d) Juice : Health
- Sol. (b); Butter is made from milk.
 Paper is made from wood.

Practice Set

Instructions : In the following questions select the related letters / words / numbers from the given alternatives :

1. Psychology : Mind :: Ornithology : ?
 (a) Sanskrit (b) Coin
 (c) Mammal (d) Bird
2. Suggestion : Order :: Take : ?
 (a) Give (b) Snatch
 (c) Gain (d) Gift
3. Maximum : Excess :: Shy : ?
 (a) Pleasant (b) Conservative
 (c) Haphazard (d) Permanent
4. 169 : 13 :: 289 : ?
 (a) 19 (b) 17
 (c) 27 (d) 23

5. 122 : 170 :: 290 : ?
 (a) 362 (b) 299
 (c) 315 (d) 341
6. EGIK : WUSQ :: DFHJ : ?
 (a) XVTR (b) BDFH
 (c) ECGI (d) SQON
7. RED : EFS :: BLUE : ?
 (a) FVMC (b) DTKA
 (c) FUNC (d) GVND
8. Thread : Cloth :: Wire : ?
 (a) Rope (b) Mesh
 (c) Sieve (d) Telegraph

9. Scissors : Cloth :: ?
 (a) Stone : Grinder (b) Axe : Wood
 (c) Knife : Stone (d) Gun : Hunt
10. LJH : KKI :: CIA : ?
 (a) BJB (b) BBC
 (c) DBB (d) CBZ
11. EGIK : FILO :: FHJL : ?
 (a) JGMP (b) JGPM
 (c) GJPM (d) GJMP
12. DRIVE : EIDRV :: BEGUM : ?
 (a) EUBGM (b) MGBEU
 (c) BGMEU (d) UEBGM
13. 49 : 81 :: 64 : ?
 (a) 36 (b) 100
 (c) 121 (d) 144
14. 371 : 150 :: 468 : ?
 (a) 247 (b) 357
 (c) 246 (d) 345
15. 42 : 31 :: ?
 (a) 97 : 86 (b) 53 : 46
 (c) 79 : 86 (d) 64 : 79
16. ADHM : ZWSN :: CFJO : ?
 (a) XUQL (b) WSPK
 (c) XWTP (d) ZXVT
17. River : Dam :: Traffic : ?
 (a) Vehicle (b) Speed
 (c) Signal light (d) Path
18. Ornithologist : Birds :: Archaeologist : ?
 (a) Artifacts (b) Archipelago
 (c) Arbiter (d) Aquatic
19. AYBZ : CWDX :: EUFV : ?
 (a) GSHT (b) GHST
 (c) SHGT (d) MVGT
20. DCEF : QPRS :: XWYZ : ?
 (a) IHGF (b) STUV
 (c) SRQP (d) NMOP
21. 17 : ? :: 145 : 195
 (a) 42 (b) 35
 (c) 30 (d) 24
22. 3222 : 7222 :: 3323 : ?
 (a) 9949 (b) 8838
 (c) 7323 (d) 2212
23. Stethoscope : Heartbeat :: ? : Temperature
 (a) Heat (b) Mercury
 (c) Scale (d) Thermometer
24. Spring : Summer ::
 (a) Sunday : Monday (b) Thursday : Wednesday
 (c) Tuesday : Friday (d) Friday : Monday
25. BYW : DWU :: FUS : ?
 (a) ESQ (b) GST
 (c) HSQ (d) EST
26. JLNP : OMKI :: SUWY : ?
 (a) MLKI (b) PLHD
 (c) XVTR (d) PGHI
27. 132 : 462 :: 992 : ?
 (a) 1722 (b) 1728
 (c) 1724 (d) 1726
28. 520 : 738 :: ? : 350
 (a) 220 (b) 222
 (c) 230 (d) 248
29. 423 : 657 :: 534 : ?
 (a) 678 (b) 867
 (c) 768 (d) 876
30. 13 : 24 :: ? : ?
 (a) 45 : 79 (b) 56 : 78
 (c) 35 : 59 (d) 57 : 68
31. Tadpole : Frog :: Leveret : ?
 (a) Hen (b) Lion
 (c) Hare (d) Horse
32. Excuse : Cxeesu :: Erodes : ?
 (a) oreesd (b) Oresed
 (c) reosde (d) Erodse
33. Patrol : Security :: Insurance : ?
 (a) Money (b) Policy
 (c) Savings (d) Risk
34. $8 * 3 : 4 :: 6 * 5 : ?$
 (a) 6 (b) 0
 (c) 5 (d) 4
35. Giant : Dwarf :: Genius : ?
 (a) Gentle (b) Tiny
 (c) Wicked (d) Idiot
36. TRPN : LJHF :: ZXVT : ?
 (a) RPMN (b) RPNL
 (c) XWUS (d) PNLI
37. BYE : DAG :: GDJ : ?
 (a) ILF (b) EBH
 (c) IFL (d) EHB
38. DEFH : HJLO :: BCDJ : ?
 (a) CFIS (b) FHJQ
 (c) IDFHU (d) DHFT
39. PNLJ : IGEC :: VTRP : ?
 (a) RPOM (b) ASRC
 (c) RSTU (d) OMKI
40. ABCE : BCEG :: ? : EGKM
 (a) CEGI (b) CEGK
 (c) DEGK (d) BCEI

41. 16 : 36 :: 49 : ?
 (a) 56 (b) 60
 (c) 81 (d) 41
42. 9 : 738 :: 7 : ?
 (a) 650 (b) 350
 (c) 750 (d) 550
43. SGH : TIJ :: UKL : ?
 (a) OUR (b) VMN
 (c) ROP (d) HIM
44. ABZ : BDX :: CFV : ?
 (a) HIT (b) DHI
 (c) DHO (d) DHT
45. BCDE : VWXY :: FGHI : ?
 (a) JKLM (b) KJLI
 (c) NOPO (d) RSTU
46. tide : edit :: spit : ?
 (a) tps (b) tips
 (c) tsip (d) tpsi
47. 5 : 135 :: 7 : ?
 (a) 353 (b) 245
 (c) 273 (d) 293
48. Poet : Imagination :: Historian : ?
 (a) Statistics (b) Commerce
 (c) facts (d) Science
49. Gifted : Intelligency :: Creativity : ?
 (a) Artistic (b) Scientific
 (c) Productive (d) Repeitive
50. Triangle : Hexagon :: ?
 (a) Cone : Sphere
 (b) Rectangle : Octagon
 (c) Pentagon : Heptagon
 (d) Angle : Quadrilateral
51. Student : Book :: Postman : ?
 (a) Delivery (b) Bicycle
 (c) Uniform (d) Mail
52. Illiteracy : Education :: Drought : ?
 (a) Well (b) Rain
 (c) Dam (d) River
53. 13 : 19 :: 21 : ?
 (a) 41 (b) 81
 (c) 141 (d) 14
54. APPLE : 50 :: ORANGE : ?
 (a) 60 (b) 69
 (c) 61 (d) 63
55. TSH : IRQ :: QPK : ?
 (a) LNO (b) LON
 (c) PWK (d) PON
56. Architect : Building :: Sculptor : ?
 (a) Museum (b) Stone
 (c) Chisel (d) Statue
57. MKQO : LNPR :: ? : XVTZ
 (a) YSUW (b) SVWY
 (c) VTWY (d) WYTS
58. Find out the questioned number. 6 : 5 :: 8 : ?
 (a) 2 (b) 4
 (c) 6 (d) 10
59. Country : President : State : ?
 (a) Chief Minister (b) Prime Minister
 (c) Speaker (d) Governor
60. Mirage : Desert :: ?
 (a) Sky : Illusion (b) Rainbow : Sky
 (c) Rain : Rainbow (d) Image : Mirror
61. Tekcar : Racket :: Tcejbo : ?
 (a) tceobj (b) object
 (c) cejbot (d) reject
62. JIHK : PONQ :: WVUX : ?
 (a) KNML (b) RSTU
 (c) HIGJ (d) MLKN
63. UUWX : WWYZ :: OOQR : ?
 (a) OOPG (b) MMPO
 (c) XXYZ (d) QQST
64. BIMN : CKPR :: CURD : ?
 (a) DWUH (b) WUHC
 (c) UHDW (d) HUVN
65. BCFE : HILK :: NORQ : ?
 (a) TXWU (b) TXUW
 (c) TUXW (d) TUWX
66. ? : 63 :: 08 : 26
 (a) 12 (b) 9
 (c) 18 (d) 15
67. 64 : ? :: 72 : 53
 (a) 44 (b) 54
 (c) 52 (d) 70
68. If $a \times b = a^b$, then the value of 5×3 is
 (a) 125 (b) 243
 (c) 53 (d) 15
69. Fish : Scales :: Bear : ?
 (a) Feathers (b) Leaves
 (c) Fur (d) Skin
70. Writer : Pen :: ?
 (a) Needle : Tailor (b) Artist : Brush
 (c) Painter : Canvas (d) Teacher : Class
71. Procession : Route :: Earth : ?
 (a) Space (b) Leaves
 (c) Orbit (d) Highway

72. fertilizer : crops :: ?
 (a) Teacher : Education
 (b) chlorine : water
 (c) Tonic : Body
 (d) pesticide : rats
73. LOCKER : KMNPBDJLDFQS :: LEFT : ?
 (a) KNCDSGSU (b) KMDFEGSU
 (c) KMDFEGUS (d) KMDFEGUS
74. YWUS : BDFH :: WUSQ : ?
 (a) DFHJ (b) FHJL
 (c) JLNP (d) RTVX
75. ADCB : KNML :: EHGf : ?
 (a) DGFE (b) RUST
 (c) QRST (d) ZYXW
76. BCDF : GHIK :: LMNP : ?
 (a) QRST (b) QRTS
 (c) QRSU (d) QRSV
77. IC : 6 :: DP : ?
 (a) 14 (b) 10
 (c) 12 (d) 16
78. ABCD : WXYZ :: EFGH : ?
 (a) STUV (b) ZYXW
 (c) VUTS (d) WXYZ
79. 83 : 25 :: 29 : ?
 (a) 44 (b) 49
 (c) 40 (d) 63
80. RIDE : LNBE :: HELP : ?
 (a) NINP (b) BAJP
 (c) JPCH (d) BJJP
81. 80 : 730 :: ? : 344
 (a) 70 (b) 40
 (c) 48 (d) 52
82. 130 : 154 :: 178 : ?
 (a) 24 (b) 180
 (c) 202 (d) 206
83. 60 : 36 :: 100 : ?
 (a) 100 (b) 10000
 (c) 516 (d) 1000
84. Sty : Pig :: Byre : ?
 (a) Eagle (b) Cow
 (c) Tiger (d) Hen
85. 24 : 126 :: 48 : ?
 (a) 433 (b) 192
 (c) 240 (d) 344
86. 987 : IHG :: 654 : ?
 (a) FDE (b) FED
 (c) EFD (d) DEF
87. CFIL : ORUX :: DGJM : ?
 (a) HJLN (b) NQST
 (c) PSVY (d) RTVX
88. BEHK : YVSP :: DGJM : ?
 (a) JGDA (b) ROLI
 (c) WTQN (d) ZWTQ
89. 24 : 60 :: 120 : ?
 (a) 160 (b) 220
 (c) 300 (d) 108
90. 392 : 28 :: 722 : ?
 (a) 18 (b) 28
 (c) 38 (d) 48
91. 123 : 36 :: 221 : ?
 (a) 52 (b) 69
 (c) 72 (d) 25
92. Timid : Ass :: Cunning : ?
 (a) Ant (b) Fox
 (c) Rabbit (d) Horse
93. Ecstasy : Gloom :: ?
 (a) Congratulations : Occasion
 (b) Diligent : Successful
 (c) Measure : Scale
 (d) Humiliation : Exaltation
94. NUMERAL : UEALRMN :: ALGEBRA : ?
 (a) LRBAGEA (b) BARLAGE
 (c) LERAGBA (d) LERABGA
95. BDAC : FHEG :: NPMO : ?
 (a) RQTS (b) OBJECT
 (c) TRQS (d) RTQS
96. FGHI : OPQR :: BCDE : ?
 (a) KLMJ (b) KLMN
 (c) IUWV (d) STUW
97. PNLJ : IGEC :: VTRP : ?
 (a) OMKI (b) RSTU
 (c) QSRC (d) RPOM
98. 17 : 60 :: 20 : ?
 (a) 57 (b) 69
 (c) 81 (d) 93
99. 6 : 64 :: 11 : ?
 (a) 144 (b) 169
 (c) 121 (d) 124
100. 123 : 4 :: 726 : ?
 (a) 23 (b) 26
 (c) 14 (d) 12

Distinct Questions

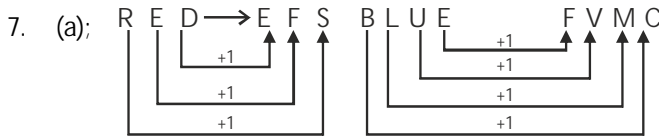
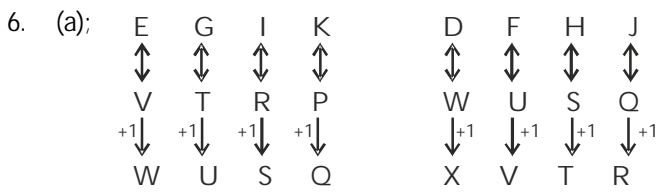
Previous Year Questions

1. XgmE : EmgX :: ? : BacK
(a) AckB (b) KcaC
(c) KcaB (d) KacC
2. GH : 78 :: EF : ?
(a) 34 (b) 45
(c) 56 (d) 78
3. CEDH : HDEC :: ? : PNRV
(a) VRNP (b) RNPV
(c) NRVP (d) VNRP
4. PZQW : NXOU :: FISK : ?
(a) EFPJ (b) FERI
(c) DGQI (d) HKVM
5. Light : Darkness :: Knowledge : ?
(a) Ignorance (b) Intelligence
(c) Brightness (d) Creative
6. Scissors : Cloth :: ?
(a) Pen : Ink (b) Razor : Beard
(c) Furnace : Smoke (d) Nail : Hammer
7. KML : NPO :: CED : ?
(a) EGF (b) GHF
(c) FHG (d) HGF
8. ADGJ : MPSV :: ? : NQTW
(a) BEHK (b) EHKM
(c) DGJN (d) QTVZ
9. Upset : Setup :: Tiptop : ?
(a) Totpop (b) Totpip
(c) Tippop (d) Toptip
10. 20 : 30 :: ? : 72
(a) 56 (b) 59
(c) 68 (d) 61
11. 342 : 453 :: 831 : ?
(a) 942 (b) 720
(c) 922 (d) 740
12. 30 : 130 :: ? : ?
(a) 20 : 120 (b) 37 : 210
(c) 42 : 222 (d) 49 : 350
13. SORROW : CRY :: MIRTH : ?
(a) JOY (b) LAUGHTER
(c) FROWN (d) WEEP
14. Love : Hate :: Proud : ?
(a) Sorrowful (b) Miserable
(c) Humble (d) Conceited
15. 3 : 30 :: 5 : ?
(a) 135 (b) 130
(c) 140 (d) 145
16. CFDB : XUWY :: GJHF : ?
(a) SPRT (b) TSQU
(c) TOSU (d) SPTR
17. Bore : 10 :: Hotel : ?
(a) 12 (b) 15
(c) 18 (d) 30
18. 2 : 7 :: 6 : ?
(a) 40 (b) 39
(c) 50 (d) 72
19. 24 : 27 = ? : 81
(a) 8 (b) 62
(c) 72 (d) 82
20. 47 : 65 :: 59 : ?
(a) 95 (b) 110
(c) 106 (d) 118
21. ACEG : SUWY :: BDFH : ?
(a) TVZX (b) RTZV
(c) TVXZ (d) RTVZ
22. $\frac{M}{AC} : \frac{N}{AD} :: \frac{O}{AE} : ?$
(a) $\frac{P}{AF}$ (b) $\frac{Q}{AB}$
(c) $\frac{P}{AC}$ (d) $\frac{R}{AD}$
23. 5 : 27 :: 9 : ?
(a) 83 (b) 81
(c) 36 (d) 18
24. 6 : 11 :: 11 : ?
(a) 6 (b) 17
(c) 21 (d) 30
25. ABE : 8 :: KLO : ?
(a) 37 (b) 39
(c) 38 (d) 36
26. ADBC : EHFG :: ILJK : ?
(a) MOPN (b) MPNO
(c) ORPQ (d) MPON
27. Fox : Cunning :: Rabbit : ?
(a) Courageous (b) Dangerous
(c) Timid (d) Ferocious
28. Flexible : Rigid :: Confidence : ?
(a) Diffidence (b) Indifference
(c) Cowardice (d) Scare
29. AZCX : BYDW :: HQJO : ?
(a) GRFP (b) IPKM
(c) IPKN (d) GRJP

30. QIOK : MMKO :: YAWC : ?
 (a) USGA (b) UESG
 (c) VUES (d) SUEG
31. $\frac{ABC}{F} : \frac{BCD}{I} :: \frac{CDE}{L} : ?$
 (a) $\frac{DEF}{O}$ (b) $\frac{DEF}{N}$
 (c) $\frac{EDF}{O}$ (d) $\frac{DEF}{M}$
32. 1 : 8 :: 27 : ?
 (a) 37 (b) 47
 (c) 57 (d) 64
33. 1 : 6 :: 8 : ?
 (a) 11 (b) 13
 (c) 12 (d) 14
34. $N \times M : 14 \times 13 :: X \times Z : ?$
 (a) 24×23 (b) 23×24
 (c) 24×26 (d) 26×23
35. 2 : 12 :: 8 : ?
 (a) 18 (b) 128
 (c) 396 (d) 576
36. Secretive : Open :: Snide : ?
 (a) Hidden (b) Fortright
 (c) Outcome (d) Forward
37. 9 : 80 :: 100 : ?
 (a) 901 (b) 1009
 (c) 9889 (d) 9999
38. 324 : CBD :: 456 : ?
 (a) DEF (b) FED
 (c) FDE (d) EFD
39. 9 : 162 :: 8 : ?
 (a) 162 (b) 128
 (c) 96 (d) 112
40. 1224 : 1854 :: 2142 : ?
 (a) 1648 (b) 2080
 (c) 1122 (d) 981
41. IJ : LM :: PQ : ?
 (a) TU (b) VW
 (c) ST (d) US
42. QO : OQ :: AZ : ?
 (a) AZ (b) ZY
 (c) XZ (d) ZA
43. CE : XV :: MU : ?
 (a) NF (b) TE
 (c) XN (d) ZK
44. ? : JKHI :: TRUS : OMPN
 (a) GEHF (b) GEFH
 (c) LOMP (d) OPMN
45. AEJO : ZVQL :: DINS : ?
 (a) WRMH (b) WSOJ
 (c) WRNJ (d) WSNI
46. IRTH : HQSG :: ? : RQPO
 (a) QPON (b) PQPO
 (c) OPQR (d) SRQP
47. AKU : BMV :: EOY : ?
 (a) FOV (b) FPX
 (c) FPZ (d) FQZ
48. Which of the alternatives is odd
 Abandon : give up :: ? : ?
 (a) Ascent : upswing (b) Bellicose : Pacifist
 (c) Capture : Arrest (d) Deliver : Relieve
49. 'Mother' is related to 'child' in the same way as 'tree' is related to-
 (a) Plant (b) Fruit
 (c) Root (d) Flower
50. 'Captain' is related to 'Team' in the same way as 'Leader' is related to-
 (a) Chair (b) Follower
 (c) Party (d) Minister

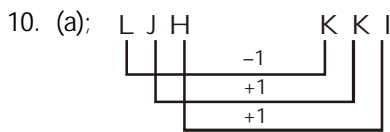
Practice Set Solutions

1. (d); Psychology is the study of mind, mental condition. Similarly, the scientific study of birds is called ornithology.
2. (b); 'Order' is of greater intensity than suggestion. Similarly, Snatch is of greater intensity than Take.
3. (b); Maximum and Excess are synonymous to each other. Similarly, Shy and Conservative are synonymous to each other.
4. (b); $\sqrt{169} = 13$
 Therefore,
 $\sqrt{289} = \boxed{17}$
5. (a); $(11)^2 + 1 = 122$
 $(13)^2 + 1 = 170$
 $(17)^2 + 1 = 290$
 $(19)^2 + 1 = 362$

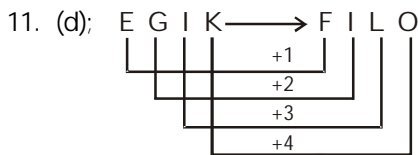
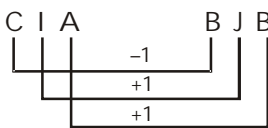


8. (b); Cloth is made from thread and mesh is made from wire.

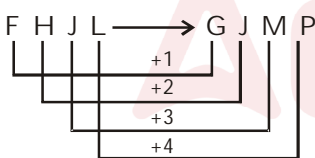
9. (b); Scissors is used to cut cloth. Similarly, axe is used to cut wood.



Similarly,



Similarly,



12. (b);

1	2	3	4	5	→	5	3	1	2	4
D	R	I	V	E		E	I	D	R	V

Similarly,

1	2	3	4	5	→	5	3	1	2	4
B	E	G	U	M		M	G	B	E	U

13. (b);

49	:	81
↓		↓
(7) ²		(9) ²

Similarly,

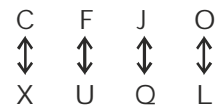
64	:	100
↓		↓
(8) ²		(10) ²

14. (a); 371 - 150 = 221
468 - 221 = 247

15. (a); 42 - 31 = 11
97 - 86 = 11

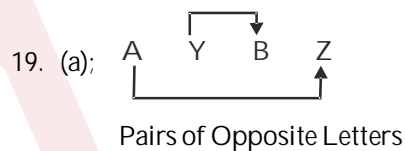


Similarly,

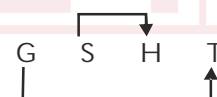


17. (c); The flow of river is controlled by constructing dam. Similarly, traffic is controlled by Signal light.

18. (a); The one who studies different varieties of birds is known as Ornithologist. Similarly, Archaeologist studies artifacts.



Similarly,



20. (d); D $\xrightarrow{-1}$ C $\xrightarrow{+2}$ E $\xrightarrow{+1}$ F

Q $\xrightarrow{-1}$ P $\xrightarrow{+2}$ R $\xrightarrow{+1}$ S

X $\xrightarrow{-1}$ W $\xrightarrow{+2}$ Y $\xrightarrow{+1}$ Z

N $\xrightarrow{-1}$ M $\xrightarrow{+2}$ O $\xrightarrow{+1}$ P

21. (b); (4)² + 1 = 17 (6)² - 1 = 35

(12)² + 1 = 145 (14)² - 1 = 195

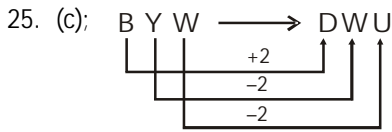
22. (c); +3222 +3323

+4000 +4000

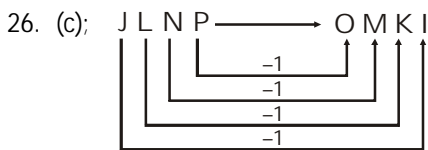
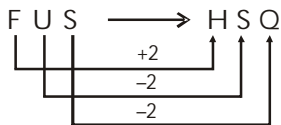
7222 7323

23. (d); Stethoscope is a scientific instrument which measures heartbeat. Similarly, Thermometer measures temperature.

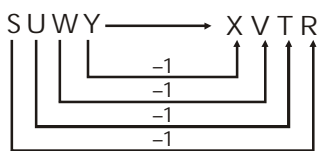
24. (a); Summer comes after spring. Similarly, Monday comes after Sunday.



Similarly,



Similarly,



27. (a); $(11)^2 + 11 = 132$
 $(21)^2 + 21 = 462$
 $(31)^2 + 31 = 992$
 $(41)^2 + 41 = 1722$

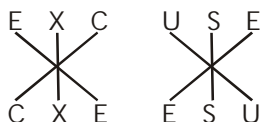
28. (b); $520 = 8 \times 8 \times 8 + 8 = 512 + 8$
 $738 = 9 \times 9 \times 9 + 9 = 729 + 9$
 $350 = 7 \times 7 \times 7 + 7 = 343 + 7$
 $\therefore ? = 6 \times 6 \times 6 + 6 = 216 + 6 = 222$

29. (c); $423 + 234 = 657$
 $534 + 234 = 768$

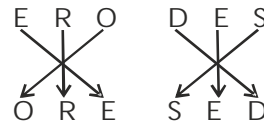
30. (d); $24 - 13 = 11$
 Similarly,
 $68 - 57 = 11$

31. (c); The early stage of frog is tadpole. Similarly, the early stage of Hare is Leveret.

32. (b); The word has been divided into two equal parts. Then, the letters have been written in reverse order in each part.



Similarly,

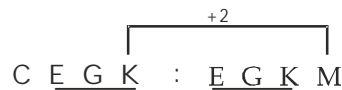
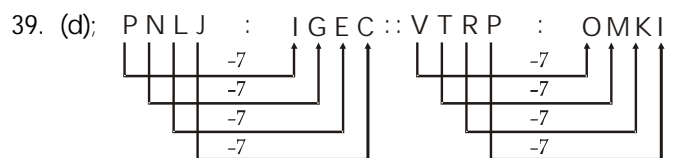
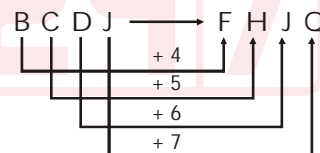
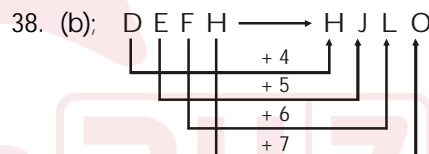
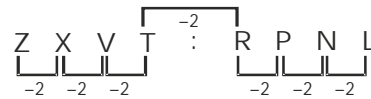
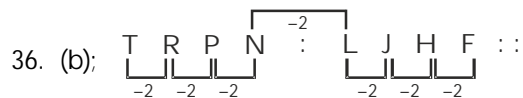


33. (d); In order to ensure security, police or defence personnel patrol the area. Similarly, to cover risk, insurance is done.

34. (c); $8 \times 3 = \frac{24}{4} = 6$

$6 \times 5 = \frac{30}{5} = 6$

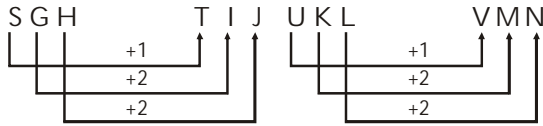
35. (d); Antonym of Giant - dwarf
 Antonym of Genius - Idiot



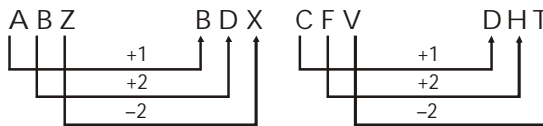
41. (c); $16 : 36 :: 49 : 81$
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$
 $4^2 \quad 6^2 \quad 7^2 \quad 9^2$

42. (b); $9 : 738 :: 7 : ?$
 $9^3 = 729 + 9 = 738$
 $7^3 = 343 + 7 = 350$

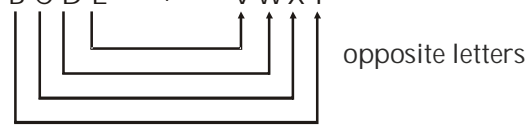
43. (b); S G H : T I J :: U K L : ?



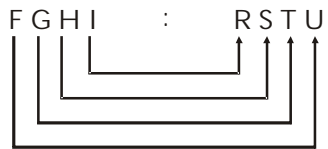
44. (d); ABZ : BD X :: CFV : ?



45. (d); B C D E : V W X Y



opposite letters



46. (b); tide : edit :: spit : tips

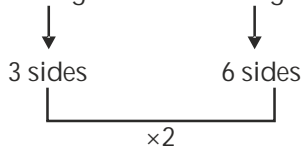
In reverse order

47. (a); $5 : 135 :: 7 : ?$
 $5^3 = 125 + 10 = 135$
 $7^3 = 343 + 10 = 353$

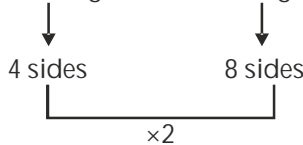
48. (c); Poet → writes poetry by his own imagination
 Historian → writes the history with the help of facts.

49. (c); Intelligency → is natural gift
 Creativity → is productive (made by one's own hard work)

50. (b); Triangle : Hexagon



Rectangle : Octagon



51. (d); Student have book,
 Postman have mail

52. (b); Illiteracy → is removed by education
 Drought → is removed by Rain

53. (a); $1 \ 3 : 1 \ 9$ and $2 \ 1 : 4 \ 1$
 Diagrams show arrows from 1 to 9 (labeled 3^2) and from 2 to 4 (labeled 2^2).

54. (a); A P P L E and O R A N G E
 Diagrams show arrows from A to O (1+16), P to R (16+16), P to A (16+12), L to N (12+5), and E to E (5).

55. (b); T S H : I R Q and O P K : L O N
 Diagrams show arrows from T to I (+1), S to R (-1), H to Q (-3) and from O to L (+1), P to O (-1), K to N (-3).

56. (d); Architect construct buildings. Similarly, Sculptor carves statue.

57. (a); M K Q O → L N P R
 Diagrams show arrows from M to L (-1), K to N (+3), Q to P (-1), and O to R (+3).

Similarly,

Y S U W → X V T Z
 Diagrams show arrows from Y to X (-1), S to V (+3), U to T (-1), and W to Z (+3).

58. (c); $6 = 3 \times 2$; $5 = 3 + 2$
 $8 = 4 \times 2$; $6 = 4 + 2$

59. (d); President is the head of Union Executive of a India. Similarly, Governor is the head of State Executive.

60. (b); Mirage is an illusion caused by hot air conditions making one see something that is not there, especially the apperance of a sheet of water on a hot road or in a desert.

Rainbow is an arc of seven colours formed in the sky when the sun shines through rain.

61. (b); The letters have been written in reverse order.

TEKCAR ⇒ RACKET

Similarly,

TCEJBO ⇒ OBJECT

62. (d); First three letters are consecutive letters but in reverse order and the fourth letter comes immediately after the first letter in the English alphabetical series.

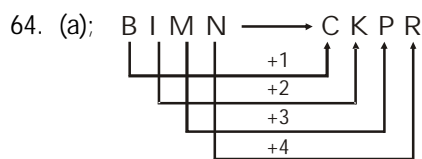
J $\xrightarrow{-1}$ I $\xrightarrow{-1}$ H $\xrightarrow{+3}$ K

P $\xrightarrow{-1}$ O $\xrightarrow{-1}$ N $\xrightarrow{+3}$ Q

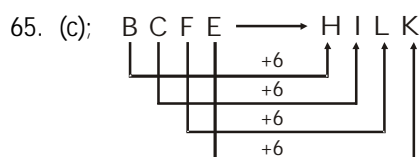
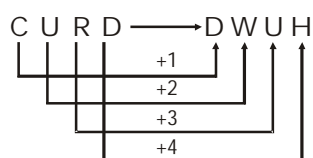
W $\xrightarrow{-1}$ V $\xrightarrow{-1}$ U $\xrightarrow{+3}$ X

M $\xrightarrow{-1}$ L $\xrightarrow{-1}$ K $\xrightarrow{+3}$ N

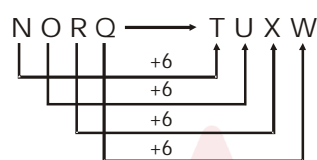
63. (d); $UU \xrightarrow{+2} W \xrightarrow{+1} X$
 $WW \xrightarrow{+2} Y \xrightarrow{+1} Z$
 $OO \xrightarrow{+2} Q \xrightarrow{+1} R$
 $QQ \xrightarrow{+2} S \xrightarrow{+1} T$



Similarly,



Similarly,



66. (c); $0 + 8 = 2 + 6$

$1 + 8 = 6 + 3$

67. (b); $7 + 2 = 9; 5 + 3 = 8$

$9 - 8 = 1$

$6 + 4 = 10; 5 + 4 = 9$

$10 - 9 = 1$

68. (a); $a * b = a^b$

$\therefore 5 * 3 = 5^3 = 5 \times 5 \times 5 = 125$

69. (c); The body of fish remains covered with scales externally. Similarly, the body of bear remains covered with fur.

70. (b); Here, Worker-Tool relationship has been shown. Writer uses pen for writing. Similarly, artist uses bursh.

71. (c); Procession proceeds on a certain route. Similarly, Earth revolves round the sun in its orbit.

72. (c); Fertiliser is used for improving crop yield. Similarly, tonic makes body healthy.

73. (b); $L \Rightarrow KM; L \xrightarrow{-1} K; L \xrightarrow{+1} M$
 $O \Rightarrow NP; O \xrightarrow{-1} N; O \xrightarrow{+1} P$
 $C \Rightarrow BD; C \xrightarrow{-1} B; C \xrightarrow{+1} D$
 $K \Rightarrow JL; K \xrightarrow{-1} J; K \xrightarrow{+1} L$
 $E \Rightarrow DF; E \xrightarrow{-1} D; E \xrightarrow{+1} F$
 $R \Rightarrow QS; R \xrightarrow{-1} Q; R \xrightarrow{+1} S$

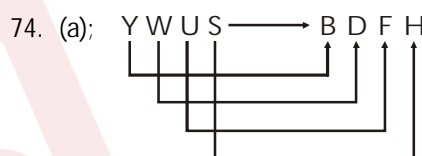
Similarly,

$L = L \xrightarrow{-1} K; L \xrightarrow{+1} M$

$E \Rightarrow E \xrightarrow{-1} D; E \xrightarrow{+1} F$

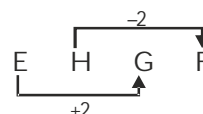
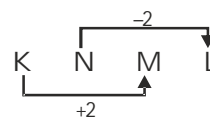
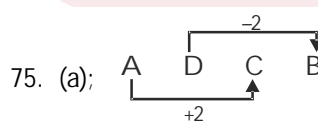
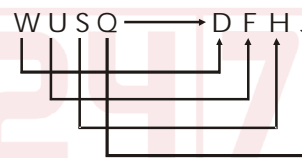
$F = F \xrightarrow{-1} E; F \xrightarrow{+1} G$

$T \Rightarrow T \xrightarrow{-1} S; T \xrightarrow{+1} U$

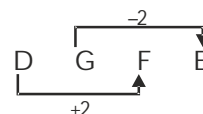


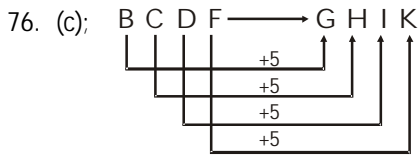
Pairs of Opposite Letters

Similarly,

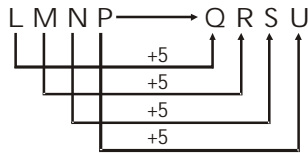


Similarly,

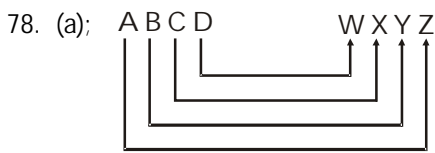




Similarly,

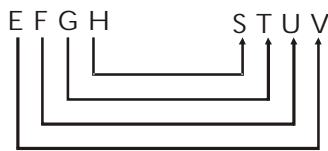


77. (c); $I \Rightarrow 9$; $C \Rightarrow 3$; $9 - 3 = 6$
 Similarly, $D \Rightarrow 4$; $P \Rightarrow 16$;
 $16 - 4 = 12$

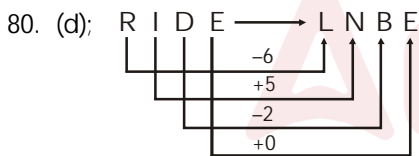


Pairs of Oposite Letters.

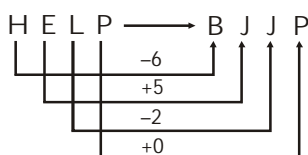
Similarly,



79. (b); $8 - 3 = 5$; $(5)^2 = 25$
 Similarly, $9 - 2 = 7$; $(7)^2 = 49$



Similarly,



Distinct Solutions

81. (c); $(9 \times 9) - 1 = 81 - 1 = 80$
 $(9 \times 9 \times 9) + 1 = 729 + 1 = 730$
 Similarly,
 $(7 \times 7) - 1 = 49 - 1 = 48$
 $(7 \times 7 \times 7) + 1 = 343 + 1 = 344$

82. (c); $130 + 24 = 154$
 $178 + 24 = 202$

83. (a); $(60 \div 10) \times 6 = 36$
 $(100 \div 10) \times 10 = 100$

84. (b); The resting place of pig is called Sty. Similarly, the resting place of cow is called Byre.

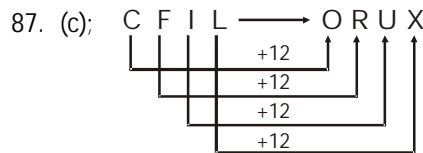
85. (d); $5^2 - 1 = 24$; $5^3 + 1 = 126$
 $7^2 - 1 = 48$; $7^3 + 1 = 344$

86. (b);

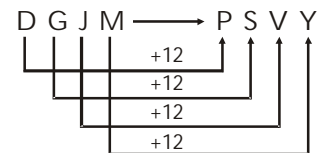
9	8	7
↓	↓	↓
I	H	G

Similarly,

6	5	4
↓	↓	↓
F	E	D

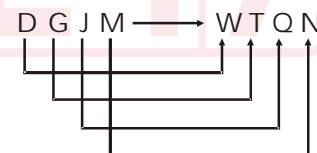


Similarly,



Pairs of Oposite Letters.

Similarly,



89. (c); $24 \times 2.5 = 60$
 $120 \times 2.5 = 300$

90. (c); $14 \times 14 \times 2 = 392$
 $14 \times 2 = 28$

Similarly,

$19 \times 19 \times 2 = 722$
 $19 \times 2 = 38$

91. (d); $1 + 2 + 3 = 6$; $(6)^2 = 36$
 $2 + 2 + 1 = 5$; $(5)^2 = 25$

92. (b); Ass is considered as Timid. Fox is considered as Cunning.

93. (d); Ecstasy is opposite of Gloom. Similarly, Humiliation is opposite of Exaltation.

94. (d);

1	2	3	4	5	6	7
N	U	M	E	R	A	L

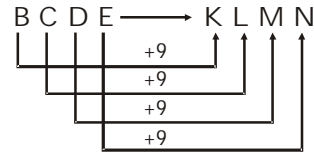
It has been arranged as

2	4	6	7	5	3	1
U	E	A	L	R	M	N

Therefore,

1	2	3	4	5	6	7
A	L	G	E	B	R	A
2	4	6	7	5	3	1
L	E	R	A	B	G	A

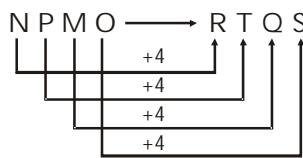
Similarly,



95. (d);

B	D	A	C	F	H	E	G
---	---	---	---	---	---	---	---

Similarly,



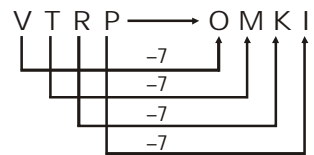
96. (b);

F	G	H	I	O	P	Q	R
---	---	---	---	---	---	---	---

97. (a);

P	N	L	J	I	G	E	C
---	---	---	---	---	---	---	---

Similarly,



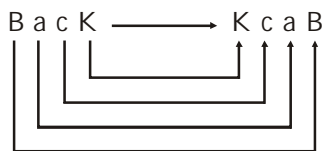
98. (b); $17 \times 3 + 9 = 51 + 9 = 60$
 Similarly, $20 \times 3 + 9 = 60 + 9 = 69$
99. (b); $(6 + 2)^2 = (8)^2 = 64$
 Similarly, $(11 + 2)^2 = (13)^2 = 169$
100. (d); $123 \Rightarrow 12 / 3 = 4$
 Similarly, $726 \Rightarrow 72 / 6 = 12$

Previous Year Solutions

1. (c);

X	g	m	E	E	m	g	X
---	---	---	---	---	---	---	---

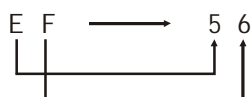
The letters have been written in reverse order.
 Therefore,



2. (c);

G	H	7	8
---	---	---	---

The position numbers of letters in English alphabet.
 Therefore,



3. (a); The letters have been written in reverse order.

C E D H \rightarrow H D E C

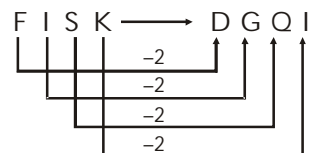
Therefore,

P N R V \rightarrow V R N P

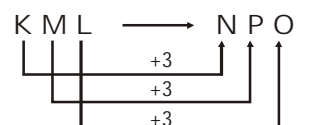
4. (c);

P	Z	Q	W	N	X	O	U
---	---	---	---	---	---	---	---

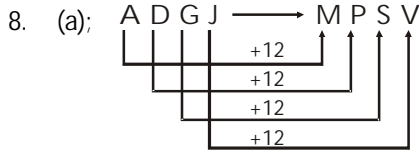
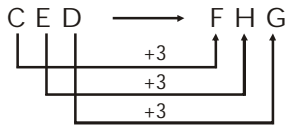
Therefore,



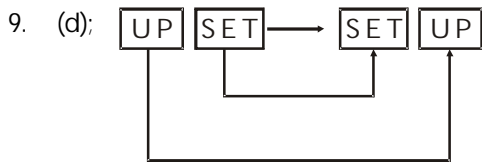
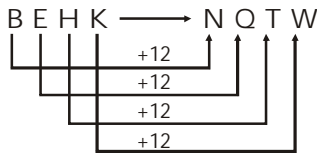
5. (a); Light wards off Darkness. Similarly, Knowledge wards off Ignorance.
6. (b); Scissors are used to cut cloth. Similarly, Razor is used to shave the beard.
7. (c);



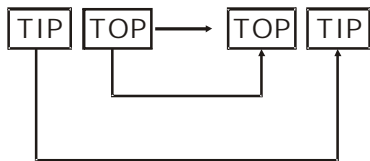
Similarly,



Therefore,



Similarly,



10. (a); $4 \times 5 = 20$; $5 \times 6 = 30$

Similarly,

$7 \times 8 = 56$; $8 \times 9 = 72$

11. (a); $342 + 111 = 453$

Similarly,

$831 + 111 = 942$

12. (c); $5^2 + 5 = 30$ $5^3 + 5 = 130$

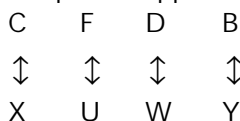
$6^2 + 6 = 42$ $6^3 + 6 = 222$

13. (b); A person cries in the state of sorrow. Similarly, one laughs in the state of mirth.

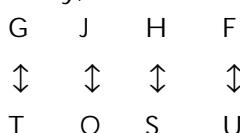
14. (c); Love is antonym of Hate. Similarly, Proud is antonym of Humble.

15. (b); $(3)^3 + 3 = 30$ $(5)^3 + 5 = 130$

16. (c); The pairs of opposite letters have been given :



Similarly,



17. (a); B O R E
 ↓ ↓ ↓ ↓
 $2 + 15 + 18 + 5 = 40$
 $40 \div 4 = 10$

H O T E L
 ↓ ↓ ↓ ↓ ↓
 $8 + 15 + 20 + 5 + 12 = 60$
 $60 \div 5 = 12$

18. (b); $(2)^2 + 3 = 4 + 3 = 7$

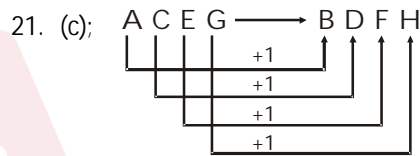
Similarly,

$(6)^2 + 3 = 36 + 3 = 39$

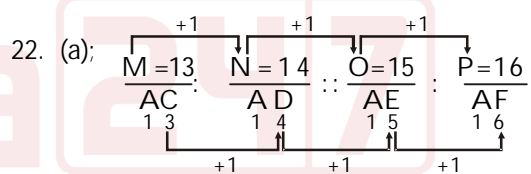
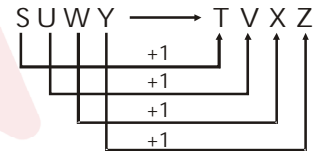
19. (c); $\frac{24}{27} = \frac{8}{9} = \frac{72}{81}$

20. (a); $4 + 7 = 6 + 5 = 11$

$5 + 9 = 9 + 5 = 14$



Similarly,



23. (a); $5 \times 5 + 2 = 27$

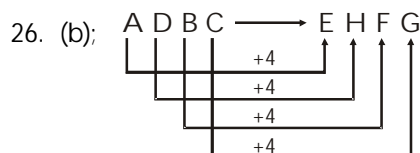
Similarly, $9 \times 9 + 2 = 83$

24. (c); $6 \times 2 - 1 = 11$

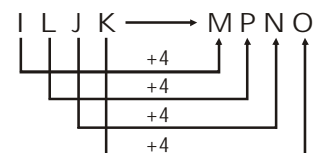
Similarly, $11 \times 2 - 1 = 21$

25. (c); $A + B + E \Rightarrow 1 + 2 + 5 = 8$

Similarly, $K + L + O \Rightarrow 11 + 12 + 15 = 38$

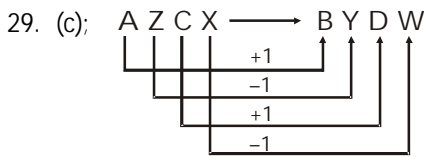


Similarly,

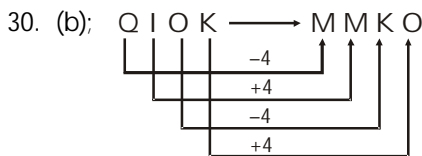
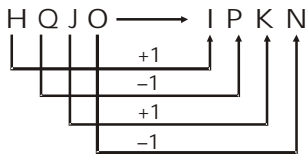


27. (c); Here animal-behaviour relationship has been shown. Fox is characterised by its cunningness. Similarly, rabbit is considered as timid.

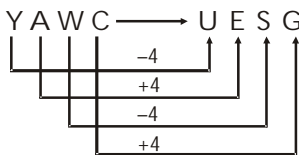
28. (a); Flexible is antonym of Rigid. Similarly, Confidence is antonym of Diffidence.



Similarly,



Similarly,



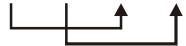
31. (a); $\frac{ABC}{F} : \frac{BCD}{I} :: \frac{CDE}{L} : \frac{DEF}{O}$

$$\frac{1+2+3}{6} : \frac{2+3+4}{9} :: \frac{3+4+5}{12} : \frac{4+5+6}{15}$$

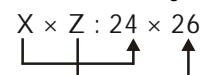
32. (d); $(1)^3 = 1 : (2)^3 = 8$
 $(3)^3 = 27 : (4)^3 = 64$

33. (b); $1 + 5 = 6$
 $8 + 5 = 13$

34. (c); $N \times M : 14 \times 13$



Position Number in the English alphabetical series. Similarly,



35. (a); $2 : 12 :: 8 : 18$

36. (b); Secretive : open :: snide : Forthright

37. (d); $(9)^2 = 81 - 1 = 80$
 $(100)^2 = 10000 - 1 = 9999$

38. (a); As 'C' is the third letter in English alphabet, 'B' second letter and 'D' fourth letter similarly

$D \rightarrow 4$ $E \rightarrow 5$ $F \rightarrow 6$

39. (b); $(9)^2 = 81 \times 2 = 162$

$(8)^2 = 64 \times 2 = 128$

40. (a); In option (a) first part of Question the first two digits are doubled and IInd Part of question the first two digit are thriced.

As :- $12 \times 2 = 24 \rightarrow 1224$

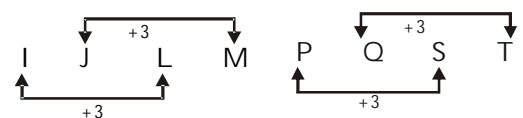
$18 \times 3 = 54 \rightarrow 1854$

Similarly:-

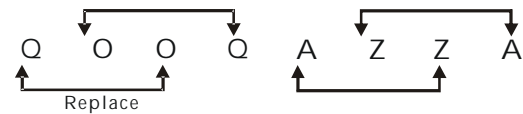
$21 \times 2 = 42 \rightarrow 2142$

$16 \times 3 = 48 \rightarrow 1648$

41. (c);



42. (d);



43. (a); In English alphabet order C and X are both 3rd place from right and left, 'E' and 'V' are both 5th place from right and left.

Similarity: - MU \rightarrow NF

44. (d);

T	<u>-5</u>	O	O	<u>-5</u>	J
R	<u>-5</u>	M	P	<u>-5</u>	K
U	<u>-5</u>	P	M	<u>-5</u>	H
S	<u>-5</u>	N	N	<u>-5</u>	I

45. (a); Opposite letters

46. (d);

I	<u>-1</u>	H	S	<u>-1</u>	R
R	<u>-1</u>	Q	R	<u>-1</u>	Q
T	<u>-1</u>	S	Q	<u>-1</u>	P
H	<u>-1</u>	G	P	<u>-1</u>	O

47. (d);

A	<u>+1</u>	B	E	<u>+1</u>	F
K	<u>+2</u>	M	O	<u>+2</u>	Q
U	<u>+1</u>	V	Y	<u>+1</u>	Z

48. (b); All except 'option b' are synonyms but 'option b' is Antonyms.

49. (a); As mother is related to child similarly 'tree' is related to 'plant'

50. (b); As 'captain' provides leadership to his team in the same way 'leader' provides leadership to his followers.



Odd One Out

Classification means to define groups of people or things, arrange by class or category and then find out different things or odd one out.

In this part out of a group, one people or things differ from remaining other words, they are having some common properties. They may like a international, national level information history, science, alphabet and numerical analogy, Classification having 3 types which are below :

- Classify among words and people (TYPE-1)
- Classify among pair of word (TYPE-2)
- Odd one out among set. (TYPE-3)

Solved Examples

TYPE – 1 :

In this type, among four options three objects or things having same properties.

- | | |
|------------|----------------|
| (a) Lawyer | (b) Legislator |
| (c) Mayor | (d) Governor |

Sol. Last 3 options are related to the politics and first option does not follow. So, Lawyer is the odd one.

- | | |
|-----------|--------------|
| (a) Acute | (b) Parallel |
| (c) Right | (d) Obtuse |

Sol. Acute, Right, obtuse are types of triangle - angle rather parallel is a property of line

- | | |
|---------|---------|
| (a) 50 | (b) 120 |
| (c) 145 | (d) 37 |

Sol. 37 is not divisible by 5 and rest numbers are divisible by 5.

- | | |
|--------------|---------------|
| (a) Kanpur | (b) Allahabad |
| (c) Varanasi | (d) Mathura |

Sol. All except Mathura, are situated on the bank of river Ganga.

Type – 2 :

In previous type, there is a single word or thing is given which follow same type of properties. In this type we have a pair in it, 1st object related to another object with any specific properties, we have found that pair which doesn't follow it.

- | | |
|-----------------------|---------------------|
| (a) Painter : Gallery | (b) Actor : Stage |
| (c) Worker : Factory | (d) Student : Stage |

Sol. Clearly, (d) is the odd one. In all other pairs, 2nd is the working place of the first.

- | | |
|-------------------------|----------------------|
| (a) Ornithology : Birds | (b) Mycology : Fungi |
| (c) Phycology : Algae | (d) Biology : Botany |

Sol. Clearly, answer is (d). If all other pairs, 1st is study of second field.

- | | |
|--------------|--------------|
| (a) 8 – 64 | (b) 9 – 81 |
| (c) 10 – 100 | (d) 11 – 131 |

Sol. (d) is the answer.

$$8^2 = 64, 9^2 = 81, 10^2 = 100, 11^2 = 121$$

Type – 3 :

In this type, pairs are given with minimum 3 digit or object which are correlated to each other with any specific property

- | | |
|------------------|------------------|
| (a) (3, 9, 27) | (b) (5, 25, 125) |
| (c) (6, 36, 216) | (d) (9, 81, 728) |

Sol. Clearly, (d) is the odd one, which does not follow continue powers of 9.

- | | |
|-------------------|--------------------|
| (a) 5, 10, 15, 20 | (b) 6, 12, 18, 24 |
| (c) 8, 60, 10, 40 | (d) 15, 30, 45, 60 |

Sol. Option (c) does not follow the multiples of digit 8 rather remaining have 1 : 2 : 3 : 4 ratio.

Practice Set

1. (a) CFIL (b) PSVX (c) JMPS (d) ORUX
2. (a) XW (b) PO (c) FG (d) ML
3. (a) EBD (b) QNO (c) IFH (d) YVX
4. (a) xXYA (b) hHIK (c) bBCE (d) iIMP
5. (a) Sun (b) Moon (c) Mars (d) Universe
6. (a) Faraday (b) Beethoven (c) Newton (d) Edison
7. (a) Inch (b) Foot (c) Yard (d) Quart
8. (a) Peak (b) Mountain (c) Hilllock (d) Valley
9. (a) N M O L (b) PK QI (c) RISH (d) TGUF
10. (a) Reader (b) Writer (c) Publisher (d) Reporter
11. (a) Island (b) Coast (c) Harbour (d) Oasis
12. (a) Carrot (b) Potato (c) Ginger (d) Cabbage
13. (a) AUgPZ (b) YGLHT (c) MXiDV (d) KFeC
14. (a) Cheras (b) Chandelas (c) Pallavas (d) Cholas
15. (a) 66-56 (b) 101-90 (c) 41-30 (d) 33-22
16. (a) Stamp : letter (b) Ticket : Train (c) Ink : Pen (d) Car : Engine
17. (a) Army : General (b) Team : Captain (c) Creche : Infant (d) Meeting : Chairman
18. (a) Wolf (b) Cat (c) Dog (d) Fox
19. (a) 12 : 14 (b) 24 : 7 (c) 37 : 4 (d) 42 : 4
20. (a) 1 (5) 2 (b) 5 (61) 4 (c) 3 (17) 24 (d) 3 (17) 4
21. (a) 6348 (b) 5745 (c) 9309 (d) 8452
22. (a) Cuba-Havana (b) Cannada : Otty (c) France : Paris (d) Austria : Vienna
23. (a) Dollar : USA (b) Won : Korea (c) Euro : UK (d) Euro : france
24. (a) Sumo (b) Maldives (c) Cricket (d) Baseball
25. (a) Wheat (b) Rice (c) Jowar (d) Beans
26. (a) BDW (b) DFU (c) FHS (d) EVE
27. (a) TOY (b) MOB (c) DEL (d) LTO
28. (a) NOON (b) NET (c) LEVEL (d) TEA
29. (a) M 14 O (b) T 21 V (c) J 12 L (d) R 19 T
30. (a) 63 (b) 81 (c) 121 (d) 225
31. (a) TSOL (b) NUR (c) NRUT (d) MEHB
32. (a) 24 (b) 35 (c) 50 (d) 63
33. (a) 9763 (b) 8648 (c) 4721 (d) 5630
34. (a) 6481 (b) 1625 (c) 2536 (d) 1211
35. (a) 462 (b) 730 (c) 531 (d) 894
36. (a) 31 (b) 13 (c) 49 (d) 19
37. (a) 1024 (b) 2916 (c) 3969 (d) 7206
38. (a) $\frac{M}{Q} : 3$ (b) $\frac{J}{N} : 3$ (c) $\frac{E}{I} : 2$ (d) $\frac{R}{X} : 5$
39. (a) July (b) August (c) December (d) June
40. (a) 4-11-70 (b) 3-27-39 (c) 15-85-5 (d) 21-7-35
41. (a) Agni (b) Prithvi (c) INS (d) Nag
42. (a) CRPF (b) NIA (c) RAW (d) IB
43. (a) Saraswati (b) Yamuna (c) Charmanwati (d) Asikni
44. (a) 101-90 (b) 201-190 (c) 301-291 (d) 401-390
45. (a) 55-55 (b) 26-61 (c) 13-31 (d) 46-64

46. (a) $9\frac{1}{11}$ (b) $7\frac{9}{13}$
 (c) $5\frac{15}{17}$ (d) $5\frac{6}{19}$
47. (a) Diesel-Bus (b) Oil- Earther light
 (c) Smoke-Fire (d) Petrol-Car
48. (a) Pistol (b) Sword
 (c) Gun (d) Rifle
49. (a) 55×5 (b) 15×15
 (c) 5×45 (d) 9×25
50. (a) R (b) W
 (c) V (d) A
51. (a) Gupta dynasty (b) Nanda dynasty
 (c) Maurya dynasty (d) Chola dynasty
52. (a) Vayudoot (b) Pushkar
 (c) Indian Airlines (d) Air India
53. (a) Andaman-Nicobar (b) Pondi Cherry
 (c) Delhi (d) Goa
54. (a) Violet (b) Blue
 (c) Green (d) White
55. (a) C R D T (b) A P B Q
 (c) E U F V (d) G W H X
56. (a) Harmless (b) Guilty
 (c) Innocent (d) Fearless
57. (a) 2 (b) 5
 (c) 8 (d) 11
58. (a) Garden-Gardener (b) Song-Singer
 (c) Art-Artist (d) Dance-Dancer
59. (a) Tabla (b) Veena
 (c) Sitar (d) Ektara
60. (a) Light (b) Wave
 (c) Heat (d) Sound
61. (a) Distinguish (b) Scatter
 (c) Differentiate (d) Classification
62. (a) POT (b) TAB
 (c) HOLDS (d) LEVEL
63. (a) ZX (b) TR
 (c) IF (d) OM
64. (a) 94-7 (b) 42-6
 (c) 35-5 (d) 56-8
65. (a) Pond-Lake (b) Pistol-Gun
 (c) Car-Bus (d) Church-Monument
66. (a) Diligent (b) Dignified
 (c) Dissident (d) Devoted
67. (a) A D G J (b) N Q T V
 (c) P S V X (d) C F I K
68. (a) 64 (b) 900
 (c) 343 (d) 1000
69. (a) DI (b) KO
 (c) OU (d) AG
70. (a) Long-Short (b) Black-White
 (c) Head-Cap (d) Friend-Foe
71. (a) Ink (b) Paper
 (c) Office (d) Pen
72. (a) dc ba (b) hg fe
 (c) pq rs (d) rq po
73. (a) BF JN (b) DHL P
 (c) GIMQ (d) HL PT
74. (a) (37-74) (b) (52-26)
 (c) (47-84) (d) (88-44)
75. (a) Hindi (b) Tamil
 (c) Punjabi (d) Urdu
76. (a) Insurance (b) Provident fund
 (c) Salary (d) Shares
77. (a) Play-Actor (b) Building-Architect
 (c) Craft-Artisan (d) Cloth-Skirt
78. (a) BADC (b) JILK
 (c) NMPO (d) VUWX
79. (a) 357 (b) 581
 (c) 698 (d) 784
80. (a) 206 (b) 125
 (c) 27 (d) 8

Distinct Questions

81. (a) 325 (b) 256
 (c) 369 (d) 224
82. (a) Aravali Hills (b) Mole Hills
 (c) Shivalik hills (d) Nilgiri Hills
83. (a) 27 (b) 57
 (c) 67 (d) 87
84. (a) 5-8 (b) 17-32
 (c) 19-38 (d) 21-40
85. (a) DW (b) XC
 (c) UF (d) NM
86. (a) 10.5 (b) 7.5
 (c) 9 (d) 11.5
87. (a) Stethoscope (b) Microscope
 (c) Telescope (d) Binocular
88. (a) Cotton (b) Terene
 (c) Silk (d) Wool
89. (a) R G T F (b) M L O K
 (c) C T E S (d) V D Z C
90. (a) U Z D G I (b) J O S V X
 (c) R W A C E (d) F K O R T
91. (a) Confluence (b) Concourse
 (c) Radiation (d) Concentration
92. (a) Carpenter (b) Goldsmith
 (c) Blacksmith (d) Driver

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|-------------------|-------------|---------------------|------------------|
| 93. (a) MSWCH | (b) NSWAH | 97. (a) Cotton | (b) Ore |
| (c) GMRVY | (d) UZEIL | (c) Latex | (d) Fabrics |
| 94. (a) E G K Q | (b) C E I O | 98. (a) Diphtheria | (b) Cataract |
| (c) L N Q W | (d) P R V B | (c) Whooping Cough | (d) Encephalitis |
| 95. (a) 392-21 | (b) 483-15 | 99. (a) 81-45 | (b) 72-91 |
| (c) 602-42 | (d) 917-35 | (c) 117-99 | (d) 135-126 |
| 96. (a) Mendicant | (b) Ascetic | 100. (a) 20, 16, 18 | (b) 18, 14, 16 |
| (c) Hermit | (d) Pious | (c) 16, 12, 14 | (d) 14, 11, 13 |

Previous Year Questions

In below questions find out the odd numbers/letters/number pairs from the given alternatives.

- | | | | |
|-----------------------------|----------------|---------------------|-------------------|
| 1. (a) 3 | (b) 15 | 17. (a) Purple | (b) Rosy |
| (c) 12 | (d) 19 | (c) Blue | (d) Red |
| 2. (a) Widow | (b) Spinster | 18. (a) Scurvy | (b) Rickets |
| (c) Wife | (d) Bachelor | (c) Night-blindness | (d) Influenza |
| 3. (a) E | (b) B | 19. (a) Rain | (b) Shower |
| (c) O | (d) I | (c) Sleet | (d) Raisin |
| 4. (a) SPPG | (b) EPOF | 20. (a) 9 | (b) 12 |
| (c) HBJO | (d) KVMN | (c) 4 | (d) 25 |
| 5. (a) Enzyme | (b) Anode | 21. (a) 36 | (b) 61 |
| (c) Motion | (d) Pressure | (c) 18 | (d) 52 |
| 6. (a) 1857 | (b) 1919 | 22. (a) Rival | (b) Opponet |
| (c) 1909 | (d) 1943 | (c) Foe | (d) Ally |
| 7. (a) ABCD | (b) EFGH | 23. (a) 27 | (b) 35 |
| (c) WXYZ | (d) PRSQ | (c) 18 | (d) 9 |
| 8. (a) Divergent Production | | 24. (a) 9-72 | (b) 8-56 |
| (b) Cognition | | (c) 11-115 | (d) 10-90 |
| (c) Forgetting | | 25. (a) TUVX | (b) OPRS |
| (d) Possessive | | (c) BCDF | (d) HIJL |
| 9. (a) Fantasy | (b) Disgust | 26. (a) Bay | (b) Cape |
| (c) Distress | (d) Sorrow | (c) Peninsula | (d) Island |
| 10. (a) 217 | (b) 730 | 27. (a) Arabic | (b) Malayalam |
| (c) 567 | (d) 126 | (c) Intelligence | (d) Chinese |
| 11. (a) Shimla | (b) Darjeeling | 28. (a) Square | (b) Trapezium |
| (c) Ooty | (d) Agra | (c) Cylinder | (d) Parallelogram |
| 12. (a) Foal | (b) Hen | 29. (a) Yacht | (b) Submarine |
| (c) Lamb | (d) Leveret | (c) Boat | (d) Ship |
| 13. (a) BADC | (b) XWZY | 30. (a) 2012 | (b) 1998 |
| (c) VUST | (d) NMPO | (c) 2005 | (d) 1997 |
| 14. (a) DCFG | (b) FEHI | 31. (a) MIGE | (b) XTQO |
| (c) JILM | (d) HGJL | (c) RNKI | (d) HDAY |
| 15. (a) (5,64) | (b) (2,3) | 32. (a) 42 : 4 | (b) 48 : 6 |
| (c) (3,8) | (d) (4,27) | (c) 32 : 2 | (d) 15 : 5 |
| 16. (a) (96,24) | (b) (39,18) | 33. (a) VWY | (b) QRT |
| (c) (81,54) | (d) (82,64) | (c) LMO | (d) JKL |
| | | 34. (a) B E | (b) G J |
| | | (c) N Q | (d) Q R |

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|----------------------|-----------------|--------------------------|-----------------------|
| 35. (a) 400 | (b) 484 | 48. (a) Andhra pradesh | (b) Maharashtra |
| (c) 625 | (d) 728 | (c) Kerala | (d) Rajasthan |
| 36. (a) 1000 | (b) 1725 | 49. (a) 284 | (b) 263 |
| (c) 2744 | (d) 4125 | (c) 195 | (d) 242 |
| 37. (a) 12-16 | (b) 45-80 | 50. (a) 7 : 98 | (b) 9 : 162 |
| (c) 30-40 | (d) 36-48 | (c) 12 : 288 | (d) 17 : 572 |
| 38. (a) CX | (b) DW | 51. (a) 3 : 00 | (b) 9 : 00 |
| (c) JQ | (d) LR | (c) 12 : 30 | (d) 6 : 15 |
| 39. (a) Cyclotron | (b) Basic | 52. (a) Nana Shahib | (b) Bakht Khan |
| (c) Pascal | (d) Fortran | (c) Taty tope | (d) Bahadur Shah III |
| 40. (a) Rooster | (b) Buck | 53. (a) mmmqqqttt | (b) bbbffjjj |
| (c) Gander | (d) Peahen | (c) cccgggkkk | (d) kkkoooss |
| 41. (a) PNB | (b) OBC | 54. (a) brass | (b) steel |
| (c) Dena Bank | (d) RBI | (c) bronze | (d) tin |
| 42. (a) Teaching | (b) Counselling | 55. (a) Ears | (b) Eyes |
| (c) Instruction | (d) Guidance | (c) Legs | (d) throat |
| 43. (a) (25,49) | (b) (121,169) | 56. (a) Sparrow | (b) Kingfisher |
| (c) (7,169) | (d) (9,25) | (c) Nightingale | (d) Bat |
| 44. (a) HEAT | (b) MEAT | 57. (a) (1,2,4,5) | (b) (6,7,14,15) |
| (c) MEET | (d) BEAT | (c) (4,5,10,15) | (d) (3,4,8,9) |
| 45. (a) 8395 | (b) 7245 | 58. (a) Shirt : Dress | (b) Boy : Girl |
| (c) 6322 | (d) 8246 | (c) Mango : Fruit | (d) Table : Furniture |
| 46. (a) FhjL | (b) PrtV | 59. (a) Downing Street | (b) White House |
| (c) Knpr | (d) Cegi | (c) Kremlin | (d) Kirribilli House |
| 47. (a) Table Tennis | (b) Cricket | 60. (a) Race course road | (b) Akbar Bhavan |
| (c) Volleyball | (d) Football | (c) Hyderabad house | (d) Raj Bhawan |

Practice Set Solutions

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| 1. (b); Except option second PSVX doesn't follows increment of letters by 3 place. | 9. (b); Except in P K Q I, in all others there are two Pairs of opposite letters. |
| 2. (c); The second alphabet is immediate previous letter of 1st alphabet. In option (c) it is just reverse. | N → M O → L |
| 3. (b); IFH, YVX and EBD are follow same format, that from first alphabet decrement of 3 place value and from second alphabet increment of 2 place value. | R → I S → H |
| 4. (d); IIMP does not follow second alphabet to third alphabet consecutive sequence. | T → G U → F |
| 5. (d); All three options sun, moon, mars, are present in universe. | 10. (a); Writer, publisher and reporter are related to publication field and reader is used for a person. |
| 6. (b); Faraday, Newton and Edison are scientist and Beethoven is a singer. | 11. (d); All except Oasis related to sea and oasis is related to desert. |
| 7. (d); Inch, foot and yard are measurement unit of length but quart is unit of volume. | 12. (d); Carrot, potato, ginger grow underground but cabbage grow above the ground. |
| 8. (d); All except valley is related to hill field or elevated feature. | 13. (b); Except in YGLHT, in all others the third letter is written in small letter |
| | 14. (b); Cheras, pallaras and cholas related to southern part of India and chandelas are related to northern India. |

15. (a); $66 - 56 = 10$ $101 - 90 = 11$
 $41 - 30 = 11$ $33 - 22 = 11$
16. (d); All except option (d), 1st object is part of 2nd object. But engine related to car, not car related to engine.
17. (c); All except option (c), 2nd object is head or main officer of the group.
18. (b); Except cat, all others belong to dog family.
19. (c); In each of pairs except (c), the product of the number is 168. Hence the answer is (c).
20. (c); In each of the alternatives except (c), the number inside it is greater than other two. Hence the answer is (c).
21. (d); All except option (d), the sum of all digit is 21.
22. (b); In each of the alternatives except (b), 2nd one is capital of first one.
23. (c); All except (c), first object is currency of second object.
24. (b); In each of alternative except (b), are name of games.
25. (d); Except Beans, all others are grains (cereals and coarse cereals)
26. (d); In each of alternatives except (d), from first letter to second letter increase by two of place value and 3rd letter is opposite of 2nd letter.
27. (d); All except (d), having middle letter a vowel.
28. (d); In each of alternatives except (d), reverse of given word also a meaningful word.
29. (c); All except option (c), middle digits is the average of place values of first and last letter.
30. (a); Except the number 63, all other numbers are perfect squares.
31. (d); All except option (d) are meaningful words in reverse order.
32. (c); In each of alternative except (c), are on digit less forming a square.
33. (c); All except option (c), the multiplication of first and second digit is third digit.
34. (d); In each of alternatives except option (d) the combination of 2-2 digit are perfect square in given number.
35. (b); All except 730, every number is divisible by digit 3.
36. (c); All except 49, every number is prime No.
37. (d); All except 7206, every number is a perfect square.
38. (c); In each of all alternative except option (c), the number is shown the number of alphabets present between given two alphabets.
39. (d); Except June, every month contain 31 days.
40. (a); Except 4-11-70, in all others the small number is a factor of the other two numbers.
41. (c); Agni Prithvi and Nag are name of Indian missile and INS term used for Naval Army.
42. (a); NIA, RAW and IB are investigation agency of India and CRPF is a part of police force.
43. (b); All except option (b), all rivers belong to the ancient India.
44. (c); All except option '3' the difference of both pair is 11.
45. (b); $\begin{array}{|c|c|} \hline 55 & 55 \\ \hline \end{array}$ $\begin{array}{|c|c|} \hline 13 & 31 \\ \hline \end{array}$ $\begin{array}{|c|c|} \hline 46 & 64 \\ \hline \end{array}$ $\begin{array}{|c|c|} \hline 26 & 61 \\ \hline \end{array}$
 Odd one
46. (d); $9\frac{1}{11} = \frac{100}{11}$, $7\frac{9}{13} = \frac{100}{13}$, $5\frac{5}{17} = \frac{100}{17}$
 $5\frac{6}{19} = \frac{101}{19}$ odd one .
47. (c); In the given option except 'C' first there are fuel and then are vehicles run with them but fire produces smoke.
48. (b); All except sword are related to bullet.
49. (a); $55 \times 5 = 275$, $15 \times 15 = 225$, $5 \times 45 = 225$, $9 \times 25 = 225$
50. (d); 'A' is odd because all others are consonant while 'A' is vowel.
51. (d); The other three dynasties belonged to North India, while Cholas were the rulers in south India.
52. (d); The other three are internal air ways, while Air India flies abroad also.
53. (c); The other three states/UTs are near sea beach or an island(s) in the sea.
54. (d); 'The other three are the colours of rainbow.
55. (a); Here in the three options, the first and the third and the second and the fourth letters of alphabet are in a consecutive order.
56. (b); All the rest reflect the positive qualities of human being while Guilty reflects his negative quality.
57. (c); The other 3 numbers are prime numbers.
58. (a); One who works in garden is called gardener. All other are Artforms
59. (a); Except Tabla, all others are stringed musical-instruments.
60. (b); Except wave, all others are different forms of energy
61. (d); Classification denotes grouping
62. (c); Except HOLDS, if letters of all others words are written in reverse order, we will get another meaningful words.
 POT → TOP ; TAB → BAT ; LEVEL → LEVEL
63. (c); $Z \xrightarrow{-2} X$; $T \xrightarrow{-2} R$; $I \xrightarrow{-3} F$; $O \xrightarrow{-2} M$
64. (a); Except in the number pair 94-7 in all other we get the second number by dividing the first number by 7.

Distinct Solutions

65. (d); Except church - Monument, in all other pairs of words two related terms are give.
66. (c); Except Dissident, all other words imply positive attitude.
67. (a); $A \xrightarrow{+3} D \xrightarrow{+3} G \xrightarrow{+3} J$
 $P \xrightarrow{+3} S \xrightarrow{+3} V \xrightarrow{+2} X$
 $N \xrightarrow{+3} Q \xrightarrow{+3} T \xrightarrow{+2} V$
 $C \xrightarrow{+3} F \xrightarrow{+3} I \xrightarrow{+2} K$
68. (b); $64 = 4^3, 343 = 7^3, 1000 = 10^3$
69. (a); $D \xrightarrow{+5} I ; K \xrightarrow{+6} Q$
 $O \xrightarrow{+6} U ; A \xrightarrow{+6} G$
70. (c); Except in the pair of words Head-cap, in all others the two words are antonym to each other
71. (c); Except office, all others are stationery items
72. (c); $d \xrightarrow{-1} c \xrightarrow{-1} b \xrightarrow{-1} a$
 $h \xrightarrow{-1} g \xrightarrow{-1} f \xrightarrow{-1} e$
 $p \xrightarrow{+1} q \xrightarrow{+1} r \xrightarrow{+1} s$
 $r \xrightarrow{-1} q \xrightarrow{-1} p \xrightarrow{-1} o$
73. (c); $B \xrightarrow{+4} F \xrightarrow{+4} J \xrightarrow{+4} N$
 $D \xrightarrow{+4} H \xrightarrow{+4} L \xrightarrow{+4} P$
 $G \xrightarrow{+2} I \xrightarrow{+4} M \xrightarrow{+4} O$
 $H \xrightarrow{+4} L \xrightarrow{+4} P \xrightarrow{+4} T$
74. (c); $37 \times 2 = 74, 26 \times 2 = 52, 44 \times 2 = 88$
 But $47 \times 2 = 94$
75. (d); Except Urdu, all others are indigenous languages, Urdu was developed from Persian (a foreign language).
76. (c); Salary is given in lieu of work. All others are types of investment.
77. (d); Except in cloth-skirt, in all others work and worker relationship has been shown.
78. (d); $B \xrightarrow{-1} A \xrightarrow{+3} D \xrightarrow{-1} C$
 $J \xrightarrow{-1} I \xrightarrow{+3} L \xrightarrow{-1} K$
 $N \xrightarrow{-1} M \xrightarrow{+3} P \xrightarrow{-1} O$
 $V \xrightarrow{-1} U \xrightarrow{+2} W \xrightarrow{+1} X$
79. (c); Except 698, others are multiples of 7
 $\frac{357}{7} = 51 ; \frac{581}{7} = 83 ; \frac{784}{7} = 112$
 But $\frac{698}{7} = 99.71$
80. (a); Except the number 206, all other numbers are perfect cubes.
 $5^3=125, 3^3=27 ; 2^3 = 8$

81. (b); Except 256 all digit's last digit is sum of first two digit.
82. (b); Aravali, Shivalik and Nilgiri Hills are present in India and Mole Hills is a conical mound of loose soil.
83. (a); The number 27 is a perfect cube $3 \times 3 \times 3 = 27$
 Note :- The number 67 may also be odd as it is a prime Number.
84. (c); $5 \times 2 - 2 = 10 - 2 = 8$
 $17 \times 2 - 2 = 34 - 2 = 32$
 $21 \times 2 - 2 = 42 - 2 = 40$
 But $19 \times 2 - 2 = 38 - 2 = 36$
85. (a); In each of alternatives except (a), first letter is big letter as compared to second and they are opposite to each other.
86. (d); All except 11.5 number every alternatives follow a rule that is (number $\times 1.5 + 1.5$) for example $5 \times 1.5 + 1.5 = 9$
87. (a); Except Stethoscope all others are such scientific instruments that are used to view distant or small objects.
88. (b); Except Terene, all others are natural fibres.
89. (d); $R \xrightarrow{+2} T \xrightarrow{-1} F$ $M \xrightarrow{+2} O \xrightarrow{-1} K$
 $C \xrightarrow{+2} E \xrightarrow{-1} S$ $V \xrightarrow{+4} Z \xrightarrow{-1} C$
90. (c); $U \xrightarrow{+5} Z \xrightarrow{+4} D \xrightarrow{+3} G \xrightarrow{+2} I$ $J \xrightarrow{+5} O \xrightarrow{+4} S \xrightarrow{+3} V \xrightarrow{+2} X$
 $R \xrightarrow{+5} W \xrightarrow{+4} A \xrightarrow{+2} C \xrightarrow{+2} E$ $F \xrightarrow{+5} K \xrightarrow{+4} O \xrightarrow{+3} R \xrightarrow{+2} T$
91. (c); Radiation is different from the other three All other words show convergence.
92. (d); Except driver, all others are artisans who make something.
93. (c); $M \xrightarrow{+6} S \xrightarrow{+4} W \xrightarrow{+6} C \xrightarrow{+5} H$
 $N \xrightarrow{+5} S \xrightarrow{+4} W \xrightarrow{+4} A \xrightarrow{+7} H$
 $G \xrightarrow{+6} M \xrightarrow{+5} R \xrightarrow{+4} V \xrightarrow{+3} Y$
 $U \xrightarrow{+5} Z \xrightarrow{+5} E \xrightarrow{+4} I \xrightarrow{+3} L$
94. (c); $E \xrightarrow{+2} G \xrightarrow{+4} K \xrightarrow{+6} Q$
 $C \xrightarrow{+2} E \xrightarrow{+4} I \xrightarrow{+6} O$
 $L \xrightarrow{+2} N \xrightarrow{+3} Q \xrightarrow{+6} W$
 $P \xrightarrow{+2} R \xrightarrow{+4} V \xrightarrow{+6} B$

95. (b); In the number pair 483-15, both the number are multiples of 3
- $$\frac{483}{3} = 161 ; \frac{15}{3} = 5$$
96. (d); Mendicant, Ascetic and Hermit are synonyms given the meaning of a beggar, and pious related to devoutly religious.
97. (d); Cotton, ore and Latex are used to manufacture other things and fabrics is last stage of manufacturing process.
98. (b); All the rest affect nerves while cataract affects eyes.
99. (b); $8 + 1 = 9$; $4 + 5 = 9$
 $1 + 1 + 7 = 9$; $9 + 9 = 18 \rightarrow 1 + 8 = 9$
 $1 + 3 + 5 = 9$; $1 + 2 + 6 = 9$
 But, $7 + 2 = 9$; $9 + 1 = 10$
100. (d); $20 \xrightarrow{-4} 16 \xrightarrow{+2} 18$
 $18 \xrightarrow{-4} 14 \xrightarrow{+2} 16$
 $16 \xrightarrow{-4} 12 \xrightarrow{+2} 14$
 $14 \xrightarrow{-3} 11 \xrightarrow{+2} 13$

Previous Year Solutions

1. (d); All alternatives except (d) are divisible by 3.
2. (d); All alternatives except (d) are used for a female candidate.
3. (b); B is not a vowel and remain option are vowel.
4. (d); All except option (d), each alternatives words decrease by 1 place value then it will be a meaningful word.
5. (a); All except option (a), are used in physics.
6. (d); All except 1943, every year shown a movement of Indian history.
7. (d); Each of alternatives option follow consecutive letter except PRSQ.
8. (a); Cognition, forgetting and possessive are part of human feeling rather divergent production is type of production.
9. (a); Disgust, distress and sorrow are part of difficult time and fantasy is imagination. Hence the answer is (a).
10. (c); In each alternatives are one digit extra from a perfect cube except 567. Hence, answer is (c).
11. (d); All except option (d) are hill station.
12. (b); All except option (b) is young one of a mammal.
13. (c); Each alternatives, except option (c) are follow a particular sequence of $-1, +3, -1$ in each alphabet.
14. (d); All except option (d) doesn't follow the sequence from first alphabet as $-1, +3, +1$.
15. (b); In each of alternatives except option (b) every second number is cube of previous digit from first number.
16. (d); All except option (d), each set number's sum is divisible by 3.
17. (b); Rosy is not the part of the spectrum.
18. (d); All except option (d), are disease due to deficiency of vitamins.
19. (d); All except option (d) are related to rain.
20. (b); Except 12, all numbers are square.
21. (a); 36 is a perfect square of 6.
22. (d); All except ally, each option, are synonyms of enemy.
23. (b); All except 35, are multipliers of digit 9.
24. (c); In each of alternatives except of (c), every second number is multiplication of first number and their previous number.
25. (b); All except OPRS, each alternatives follow increment sequence as $+1, +1, +1$ and $+2$
26. (b); All except cape, are places which are surrounded with water and related to sea.
27. (c); All except option (c) are the languages.
28. (c); Square, trapezium parallelogram are having 4 sides. Hence, option (c) is a 3-D figure.
29. (b); Except submarine, all moves in upper surface of water but submarine can move under the water also.
30. (a); All except option (a), every year is a general year and 2012 is a leap year.
31. (a); In each of alternatives except option (a), follow a sequence of $-4, -3, -2$.
32. (a); All except option (a), the first digit is exactly divisible by second digit.
33. (d); In each of alternatives except (d) are follow a sequence of $+1$ and $+2$.
34. (d); All except (d) are having increment of digit 3 in their place value.
35. (d); All except 728 are perfect square.
36. (c); All except 2744 number. All numbers are divisible by 25.
37. (b); In each of alternatives except (b), are having exact 3rd and 4th multiplier of a fixed number. for example.
- $$4 \times 3 = 12, \quad 4 \times 4 = 16$$
- $$10 \times 3 = 30 \quad 10 \times 4 = 40$$
- $$12 \times 3 = 36, \quad 12 \times 4 = 48.$$

38. (d); All option (d), alphabets are opposite to each other.
39. (a); Basic pascal and Fortran are computer language rather cyclotron not a language. Hence answer is (a).
40. (b); Rooster, gander and Peathen all are related as a male Bird but buck is a mammal.
41. (d); RBI is the central bank.
42. (a); In each of alternatives except teaching, are connected to a same field.
43. (c); All except option (c), every set numbers are exact squares.
44. (c); In option (c), two letter are repeated.
45. (d); All except option (d), each alternatives have difference of 1st and last digit's square in the middle.
46. (c); All except option (c), there is common semantics follow as a sequence of +2, in all alphabets.
47. (a); All except Table Tennis, games are outdoor games. So answer is (a).
48. (d); Andra Pradesh Maharashtra and Kerala are coastal states but Rajasthan doesn't have any boundary with sea.
49. (c); In each of alternatives except option (c), middle digit is multiplication of first and last number.
50. (d); All except option (d) alternatives second number is totally divisible by first number.
51. (c); All except 12 : 30, the angle between minute hand and hour hand is right angle. Hence, answer is (c).
52. (d); All except Bahadur shah III, these all are related to 1857 Revolution.
53. (a); In each of alternatives every main letter having only four alphabetic place value difference, except option (a). Doesnot follow it.
54. (d); All except tin other are combination of two metals. Hence, option (d) is answer.
55. (d); All except throat are outer parts of our body. Throat is inner part of our body.
56. (d); Bat is a mammal.
57. (c); All except option (c), each alternatives second digit is one extra from first digit, third digit is just double of second digit and last digit is one extra from third digit.
58. (b); In each of alternatives first object is a part of second object which is shown the field of first one. except option (b).
59. (d); In except kirribilli house, are name of president house of the country, rather than kirribilli house of Australian prime minister.
60. (d); Raj Bhawan is situated in west Bengal and race course road, Akbar Bhavan and hyderabad house are situated in new delhi.

Adda247



Missing Term in Series

Alphabetical series are combination of alphabets that are connected to each other with a rule. It might be increment, decrement, opposite and other mathematical operation. There are two types of Alphabetical series.

- (a) Alphabetical words and numerical based series.
- (b) String Based alphabetical series

Alphabetical word based series use some alphabetical words which are connected to each other. We have to find out their next term or any middle term. For example:

- (a) GIJ, LNO, ____, VXY, ACD

In above series first letter has been increased with + 5 place value, middle and last letter also increase with 5 place value.

String based series are combination of any type of strings means there is a alphabetical part that have any special rule and there is a fill in the blank within it. We have to find out that blank and fill according to following rules.

It may be of any type strings repeated, adding and dropping of letter also.

Some examples are given below.

- (a) bc abd / bc abd / bc abd / bc

It is a repeating part of bcabd string.

- (b) abc bcd cde def

It is adding and dropping based string, where we delete first letter and add new letter after 3rd letter.

Numerical series are based on Number and they will also follow any syntax, it may be increment, decrement, square, cube, prime number and any other combination of mathematical operation. Some examples are given below.

- (a) 71, 59, 48, 38, 29 _____.

In above series there is a difference of - 12, - 11, - 10, - 9, - 8, So next term will be 21.

- (b) 5, 9, 18, 34, 59 _____.

In above series they are having increment series as $2^2, 3^2, 4^2, 5^2, 6^2, \dots$ So next term is 95.



Points to Remember

- (A) In alphabetical series the letters are definitely related to their place value and opposites. A to Z sequence works as a normal sequence but it also performs in reverse sequence.
- (B) In numerical series the number having a particular sequence also uses some repeating rules which are :
 - (a) Increment and decrement in sequence of natural number
 - (b) Table of any number.
 - (c) Increment/decrement in prime / odd / even numbers.
 - (d) If there is a lot of difference between given numbers then they have to be related with square, cubes and multiplication of numbers.
 - (e) If upcoming results are having decimal then, it is an example of decimal numbers, mathematical operation and divisions.
- (C) In string based series always remember that string means repeating form of a combination. So we have to fill in the blanks according to given repeated form of combination.

Practice Set

1. 170, 149, 130, 113, ?
(a) 97 (b) 98
(c) 105 (d) 115
2. 96782345, 6782345, 678234, 78234, ?
(a) 67814 (b) 7825
(c) 7823 (d) 7884
3. PNPPONPP PNNPPNOOPN
How many times letter 'P' is present in given responses which preceding by a consonant and follow by a vowel.
(a) 5 (b) 2
(c) 1 (d) none
4. 2 1 9 5 4 6 8 4 1 6 9 8 4 1 3
How many odd number are present in the given series which is preceded by a perfect square and having followed by a odd number.
(a) 2 (b) 3
(c) 4 (d) 1
5. 158, 113, 78, 53, 28, ?
(a) 13 (b) 12
(c) 11 (d) 14
6. (Y, V, S, P, M, ?)
(a) J (b) L
(c) K (d) R
7. 25, 216, 49, ?, 81, 1000
(a) 625 (b) 512
(c) 36 (d) 48
8. NOM, OPN, PQO, ?
(a) RQP (b) OQP
(c) QRP (d) RPO
9. M5D, O7G, Q10J, ?, U19P
(a) S14M (b) S15N
(c) N15S (d) N16S
10. 8, 17, 33, 67, ?
(a) 131 (b) 132
(c) 133 (d) 135
11. 100, 50, 52, 26, 28, ? 16, 8
(a) 30 (b) 36
(c) 14 (d) 32
12. Find the wrong term in the following series.
60, 60, 61, 65, 74, ?
(a) 74 (b) 90
(c) 65 (d) 61
13. TOY, QPA, NQD, ?
(a) RKH (b) HKM
(c) KRH (d) KQN
14. BY, HS, NM, TG, ?
(a) AZ (b) ZA
(c) CX (d) WD
15. J, K, ?, P, T
(a) N (b) M
(c) O (d) P
16. Z, S, W, O, T, K, Q, G, ?, ?
(a) N, C (b) N, D
(c) O, C (d) O, D
17. 6, 11, 11, 20, 18, 31, 27, ?
(a) 41 (b) 42
(c) 43 (d) 44
18. b_abc_bca_c_bc in missing place term will be
(a) caba (b) cabb
(c) caaa (d) acad
19. 363, 297, ?, 198, 165, 143
(a) 241 (b) 242
(c) 243 (d) 96
20. l_n_mn_lm_n_lm
(a) mlmlm (b) mlnml
(c) mmlnl (d) lmlnl
21. 3, 15, 35, 63, 99, ?
(a) 141 (b) 143
(c) 151 (d) 169
22. 100, 80, 55, 25, -10, ?
(a) -5 (b) -10
(c) -15 (d) -50
23. GH, JKL, NO PQ, ?
(a) STUVX (b) STUVW
(c) STVUX (d) SUVTX
24. 62, 57, 68, 52, 74, 47, 80, ?, ?
(a) 41, 83 (b) 42, 86
(c) 43, 85 (d) 46, 88
25. ACE, BDF, GIK, -
(a) HJL (b) MJH
(c) JHM (d) HJI
26. WBP, SGM, OLJ, ?
(a) LPG (b) MQG
(c) NPH (d) KQG
27. XB, VD, TF, ?, PJ.
(a) PQ (b) RH
(c) RQ (d) RI
28. 151, 252, 454, ?, 1666
(a) 585 (b) 888
(c) 858 (d) 808

29. 300, 620, 1140, 1860, ?
 (a) 2580 (b) 2280
 (c) 2788 (d) 2780
30. 0, 2, 6, 12, ?, 30, 42
 (a) 24 (b) 20
 (c) 21 (d) 22
31. 5, 7, 11, 19, 35, 67, ?, 259
 (a) 130 (b) 129
 (c) 131 (d) 140
32. 3, 7, 15, 31, 63, 127, ?
 (a) 255 (b) 260
 (c) 245 (d) 265
33. Find out the number which is wrong according to given series.
 12, 77, 252, 620, 1292
 (a) 77 (b) 252
 (c) 620 (d) 1292
34. 7, 12, 22, 37, ?, 82, 112, 147
 (a) 50 (b) 58
 (c) 57 (d) 156
35. 7, 18, 36, ?, 93, 132
 (a) 92 (b) 83
 (c) 55 (d) 61
36. 826, 735, 644, 553, ?
 (a) 461 (b) 462
 (c) 564 (d) 584
37. 5, 11, 35, 143, -
 (a) 719 (b) 117
 (c) 917 (d) 722
38. a-bbc-aab-aa-abba-
 (a) cabaa (b) bacba
 (c) bbaaa (d) aabba
39. cc-dcn-cddc-n-ddcnn-d
 (a) cdndc (b) dnncc
 (c) dcndd (d) nccdn
40. Which of the following numbers is wrong in the series?
 3, 6, 10, 16, 21, 28
 (a) 16 (b) 10
 (c) 15 (d) 28
41. 10, 15, 35, 115, 435, ?
 (a) 1715 (b) 1517
 (c) 1716 (d) 1717
42. 12, 3, 24, 19, 44, ?
 (a) 43 (b) 46
 (c) 50 (d) 51
43. 17, ?, 65, 113, 129, 161, 209
 (a) 34 (b) 33
 (c) 40 (d) 44
44. 256, 25, 196, 49, ?, 81
 (a) 121 (b) 149
 (c) 144 (d) 16
45. 100, 70, 46, 28, ?, 10
 (a) 17 (b) 15
 (c) 20 (d) 16
46. 25, 96, 231, 448, ?
 (a) 765 (b) 760
 (c) 860 (d) 615
47. $\frac{5}{7}, \frac{8}{9}, ?, \frac{17}{21}, \frac{23}{37}$
 (a) $\frac{13}{12}$ (b) $\frac{12}{13}$
 (c) $\frac{15}{18}$ (d) $\frac{20}{17}$
48. 1495, 1494, 1485, 1460, ?, 1290, 1121
 (a) 1411 (b) 1114
 (c) 1322 (d) 1506
49. 6, 8, 11, 16, ?, 37, 58, 92
 (a) 20 (b) 21
 (c) 24 (d) 25
50. 5764801, 2401, 49, ?
 (a) 5 (b) 7
 (c) 8 (d) 9
51. 21, 42, 36, 72, 66, ?
 (a) 132 (b) 130
 (c) 169 (d) 225
52. 0.7, 1.2, 2.7, 5.2, ?, 13.2
 (a) 7.8 (b) 8.5
 (c) 8.7 (d) 14.5
53. 15, 18, 54, ?, 171, 174, 322
 (a) 159 (b) 62
 (c) 60 (d) 57
54. 100006, 10000, ?, 100, 16
 (a) 1005 (b) 1006
 (c) 1000 (d) 999
55. 6, 43, 304, 2133, ?
 (a) 14938 (b) 94134
 (c) 14532 (d) 23581
56. 4917, 4882, 4836, ?
 (a) 4564 (b) 6544
 (c) 4768 (d) 6845
57. C, D, F, I, M, ?
 (a) S (b) T
 (c) K (d) R
58. DMRC, ELSB, ?, GJUZ, HIVY
 (a) FKTA (b) KMTA
 (c) FLTA (d) FKTZ

59. IJK, ABC, LMN, DEF, ?
 (a) OP (b) GH
 (c) PQ (d) RS
60. M, P, O, -, -, T, S
 (a) S, T (b) R, Q
 (c) S, K (d) R, P
61. BHARTI, HIRBAT, ITBHRA, ?
 (a) TAHIBR (b) TAHIBS
 (c) THAIBR (d) THABIR
62. LI, LXXI, XCI, CXI, CXXXI, ?
 (a) CLX (b) CLXI
 (c) CLI (d) ICL
63. Find out wrong term in series
 541, 514, 312, 743, 945, 816
 (a) 312 (b) 945
 (c) 816 (d) 541
- Which set of letters when sequentially placed at the gaps in the given letter series shall complete it.
64. D_RCD_RCDM_CD_
 (a) MMRD (b) MMRC
 (c) MRMM (d) MMRM
65. B_OK_OW_OOK_OW_O
 (a) ONBNB (b) ONBMB
 (c) ONBBN (d) NOBBN
66. _AY_Z_YB_AY_Z
 (a) BZAZB (b) ZBAZB
 (c) ZBAZA (d) BZAZB
67. ba__b__am__aam__
 (a) ambaba (b) amabbb
 (c) ambabb (d) amabbb
68. ab_bb_aa_abb_a_babb
 (a) amama (b) ambam
 (c) ambbm (d) ambma
69. 26, 39, 58.5, ?, 131.625
 (a) 87.75 (b) 876.5
 (c) 987.5 (d) 872.8
70. 260, 345, 437, 536, ?, 755, 875
 (a) 445 (b) 642
 (c) 752 (d) 644
71. CMG, FPJ, ISM, ?
 (a) LVP (b) NVZ
 (c) NVY (d) LVZ
72. 22, 22, 55, 220, -, 8470
 (a) 1154 (b) 1210
 (c) 1145 (d) 1165
73. 291, 146, 73.5, 37.25, ?
 (a) 19.125 (b) 20.25
 (c) 19.15 (d) 119.10
74. 40250, 8050, 3220, ?, 257.6, 51.52
 (a) 464 (b) 666
 (c) 644 (d) 486
75. 3, 15, 72, 380, 2310, ?
 (a) 16215 (b) 16212
 (c) 16210 (d) 16201
76. 9, 10, ?, 69, 280, 1405
 (a) 18 (b) 20
 (c) 23 (d) 22
77. 1000000, 59049, 4096, ?, 36, 5
 (a) 169 (b) 361
 (c) 343 (d) 225
78. 34, 18, 10, ?
 (a) 8 (b) 5
 (c) 7 (d) 6
79. 4, 10, 22, 46, ?, 190
 (a) 56 (b) 16
 (c) 76 (d) 94
80. 9, 121, ?, 21841, 262081
 (a) 1681 (b) 981
 (c) 2516 (d) 1625

Distinct Questions

81. 2, 5, 26, ?
 (a) 675 (b) 674
 (c) 768 (d) 677
82. In the series 3, 9, 27, 81... What will be the 8th term.
 (a) 6891 (b) 6561
 (c) 5661 (d) 6231
83. 1, 2, 3, 6, 9, 18, -, 54
 (a) 18 (b) 27
 (c) 36 (d) 81
84. 7, 8, 11, 17, 27, ?
 (a) 42 (b) 43
 (c) 45 (d) 46
85. 2, 4, 6, 12, 22, ?
 (a) 48 (b) 40
 (c) 42 (d) 51
86. A, C, E, G, K, ?
 (a) L (b) K
 (c) M (d) P
87. 7, 18, ?, 236, 1184
 (a) 55 (b) 54
 (c) 51 (d) 58
88. BBE, BEF, BHI, ?, CFA
 (a) DBE (b) CBD
 (c) DCB (d) EBA
89. 4, 3.5, 5, ?, 19.5, 50.25
 (a) 9.5 (b) 8
 (c) 9 (d) 10.5

90. 198, 33, 6.6, 1.65, ?
 (a) 0.65 (b) 0.85
 (c) 8.9 (d) 0.55
91. 19, 22, 39, 103, 359, 1383
 (a) 22 (b) 103
 (c) 359 (d) 39
92. -1, 2, 7, ?, 23, 34, 47
 (a) 13 (b) 14
 (c) 12 (d) 15
93. 12, 36, ?, 200, 206, 1442, 1450
 (a) 40 (b) 41
 (c) 45 (d) 29
94. 84, 69, 83, ?, 82, 71
 (a) 73 (b) 74
 (c) 89 (d) 70
95. Find out wrong term in series
 2, 6, 18, 32, 50, 72, 98
 (a) 6 (b) 18
 (c) 32 (d) 50
96. JL, IG, NP, ?, RT
 (a) CE (b) EC
 (c) RD (d) FD
97. 55, 107, 317, ?, 6309, 37847
 (a) 1514 (b) 1428
 (c) 6312 (d) 1263
98. 8, 15, 42, ?, 580, 2915
 (a) 142 (b) 141
 (c) 158 (d) 402
99. 25 | 12 | 94, 9 | 1 | 95, 24 | 1 | 95, 8 | 2 | 95, ?
 (a) 22 | 2 | 95 (b) 25 | 2 | 95
 (c) 23 | 2 | 95 (d) 18 | 2 | 95
100. 5, 13, 31, 69, 147, ?
 (a) 305 (b) 308
 (c) 304 (d) 307

Previous Year Questions

1. $\frac{D}{5}, \frac{G}{9}, \frac{J}{14}, \frac{M}{20}, ?$
 (a) $\frac{Q}{26}$ (b) $\frac{O}{26}$
 (c) $\frac{Q}{27}$ (d) $\frac{P}{27}$
2. DWEV, FUGT, HSIR, ?
 (a) JKQP (b) JPOK
 (c) JQKP (d) JPKQ
3. EV, GT, JQ, ?
 (a) OP (b) LN
 (c) NM (d) MN
4. 313, 623, 933, 1243, ?
 (a) 1863 (b) 2173
 (c) 1553 (d) 2483
5. B2D, E3H, I4M, ?
 (a) N5R (b) N5T
 (c) N5S (d) N5Q
6. Which set of letters when sequentially placed at the gaps in the given letter series shall complete it?
 a c b - c e - f -
 (a) dde (b) cde
 (c) dee (d) ddg
7. QST __, QS __ R, Q __ TR, __STR
 (a) SQTR (b) RTSQ
 (c) TRQS (d) TSRQ
8. AMV, FQX, KUZ, ?
 (a) PYB (b) OXA
 (c) NYB (d) MYB
9. 27, 32, 30, 35, 33, ?
 (a) 28 (b) 31
 (c) 36 (d) 38
10. 71, 59, 48, 38, 29, ?
 (a) 18 (b) 21
 (c) 20 (d) 12
11. a e b d _ f j g i _ k o l n _
 (a) c m h (b) c h m
 (c) c g m (d) c j l
12. 5255, 5306, ____, 5408, 5459
 (a) 5057 (b) 5357
 (c) 2257 (d) 5157
13. b 3 P, c 6 R, d 12 T, e 24 V, ?
 (a) f 48 X (b) f 46 X
 (c) f 48 W (d) g 48 X
14. $\frac{c}{6}, \frac{e}{10}, \frac{g}{14}, \frac{i}{18}, ?$
 (a) $\frac{k}{22}$ (b) $\frac{k}{11}$
 (c) $\frac{p}{22}$ (d) $\frac{p}{11}$
15. BDFH, IKMO, PRTV, ?
 (a) WYAC (b) WXYA
 (c) WXYZ (d) WYZA

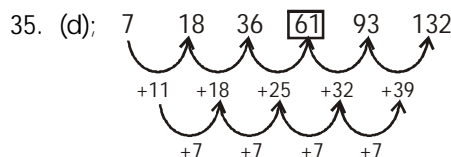
16. 2, 65, 7, 59, 12, 53, ?, ?
 (a) 15, 42 (b) 17, 45
 (c) 17, 47 (d) 18, 48
17. 1, 2, 8, 33, 148, ?
 (a) 265 (b) 465
 (c) 565 (d) 765
18. 18, 22, 21, 20, 24, 18, ?
 (a) 27 (b) 25
 (c) 16 (d) 28
19. AJKTU, BILSV, CHMRW, DGNQX, ?
 (a) FEOYZ (b) EFOPY
 (c) EOFZA (d) EFOPZ
20. hgf, kji, n ? ?
 (a) lp (b) up
 (c) oq (d) ml
21. 210, 195, 175, 150, 120, ?
 (a) 75 (b) 85
 (c) 90 (d) 95
22. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
 XY_KX_ZK_YZK XYZ ___
 (a) ZYXXKX (b) ZYKXZ
 (c) ZKXYK (d) ZXYKZ
23. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
 ac __ bd __ ce __df __ egh
 (a) d, f, g, e (b) b, d, c, a
 (c) d, g, f, e (d) d, e, f, g
24. $\frac{W}{S}, \frac{U}{O}, \frac{S}{K}, \frac{Q}{G}, ?$
 (a) P/R (b) C/O
 (c) R/J (d) O/C
25. HIII, IJJK, JKKL, KLLM, LMMN, ?
 (a) LNNO (b) MNNP
 (c) NOOP (d) MNNO
26. 1, 1, 6, 6, 11, 11, 16, ? ?
 (a) 13, 11 (b) 16, 21
 (c) 17, 21 (d) 21, 16
27. 6341, 5432, _____, 3614
 (a) 4253 (b) 4614
 (c) 4532 (d) 4523
28. 4E, 8I, 13N, 19T, ?
 (a) 26U (b) 26A
 (c) 262 (d) 25Y
29. h_eg_fegh_eghfe_
 (a) gffh (b) hhgg
 (c) ffgh (d) fhfg
30. __ 01121 __ 1121 __ 111__
 (a) 1002 (b) 1102
 (c) 1012 (d) 1211
31. CFI, IKM, OPQ, ?
 (a) UUU (b) UST
 (c) VUS (d) TUV
32. Series: $\frac{AB}{C}, \frac{ZY}{X}, \frac{DE}{F}, \frac{WV}{U}, \frac{GH}{I}, \underline{\quad?}$
 (a) $\frac{SR}{Q}$ (b) $\frac{TS}{R}$
 (c) $\frac{ST}{R}$ (d) $\frac{RS}{Q}$
33. 18, 25, 23, 30, ?
 (a) 25 (b) 35
 (c) 28 (d) 38
34. 8, 29, 113, 449, ?
 (a) 673 (b) 984
 (c) 1484 (d) 1793
35. Find the next two letters in the given series ?
 B C E H L ? ?
 (a) XY (b) MN
 (c) QW (d) OP
36. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
 a_b_a_n_bb_abbn
 (a) abnabb (b) bnbban
 (c) bnbbna (d) babban
37. 3, 4, 7, 11, 18, 29, ?
 (a) 31 (b) 39
 (c) 43 (d) 47
38. AGMSY, CIOUA, EKQWC, ?, IOUAG, KQWCI
 (a) GMSYE (b) FMSYE
 (c) GNSYD (d) FMYES
39. 975, 864, 753, 642, ?
 (a) 431 (b) 314
 (c) 531 (d) 532
40. 8, 24, 12, ?, 18, 54
 (a) 28 (b) 36
 (c) 46 (d) 38
41. Which set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
 ___a_aaaba___ ba__ab___
 (a) abaaaa (b) abaaba
 (c) aababa (d) ababaa
42. a, r, c, s, e, t, g, ?, ?
 (a) x, z (b) u, i
 (c) w, y (d) v, b

43. (?), PSVYB, EHKNQ, TWZCF, ILOORU
 (a) BEHKN (b) ADGJM
 (c) SVYBE (d) ZCFIL
44. 0, 4, 18, 48, ?, 180
 (a) 58 (b) 144
 (c) 84 (d) 100
45. 36, 28, 24, 22, ?
 (a) 18 (b) 19
 (c) 21 (d) 22
46. 7, 9, 13, 21, 37, ?
 (a) 58 (b) 63
 (c) 69 (d) 72
47. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?
 ac__cab__baca__ aba__aca__
- (a) acbcc (b) aacbc
 (c) babbb (d) bcbba
- Choose the correct alternative from the given ones that will complete the series:
48. ___?___ DREQ, GUHT, JXKW
 (a) EFRS (b) TGSF
 (c) JWVI (d) AOBN
49. 56, 90, 132, 184, 248, ___?___
 (a) 368 (b) 316
 (c) 362 (d) 326
50. 1, 4, 10, 19, 31, ?
 (a) 46 (b) 50
 (c) 55 (d) 43

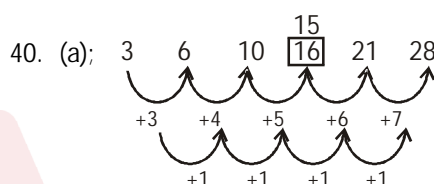
Practice Set Solutions

1. (b); Explanation :
 The pattern is -21, -19, -17, -15.....
 So, missing term = 113 - 15 = 98.
2. (c); Explanation :
 The digits are removed one by one from the beginning and the end in alternate order so as to obtain the subsequent terms of the series.
3. (c); Ans. (c) Only one P follows that condition.
4. (a); There are two combinations present are 195, 413.
 So answer is 2.
5. (a); the pattern is -45, -35, -25, ...
 So, missing term = 28 - 15 = 13.
6. (a); The series consist of alternate letters in reverse order with three place value difference. Hence, next missing term is J.
7. (b); Explanation : The series consists of squares and cubes of consecutive natural number i.e., $5^2, 6^3, 7^2, 8^3, 9^2, 10^3, 11^2, \dots$ So, missing term = $8^3 = 512$.
8. (c); In every term, every letter (first, middle, last) increases with next letters. So missing term is QRP.
9. (a); S 14 M ,Clearly, the first letters of the terms are alternate.
 The last letter of each term is three steps ahead of the last letter of the preceding term.
 Thus, the next term would be S 14 M. Hence, the answer is (a).
10. (c); Explanation : The pattern is $\times 2 + 1, \times 2 - 1, \times 2 + 1, \times 2 - 1, \dots$
 so, missing term = $67 \times 2 - 1 = 133$
11. (c); The pattern is $\div 2, +2, \div 2, +2$, so next term is $28 / 2 = 14$.
12. (b); The pattern is $0, +(1)^2, +(2)^2, +(3)^2, +(4)^2$, so next term is 90.
13. (c); Explanation : In first letter decrement of three place values, increment of one place value in second letter and in third letters $+2, +3, +4$.
14. (b); Explanation : First letter increment with six place value and second letter decrease with six values.
15. (b); Explanation : Continuously increment of natural numbers in place value $\dots 1, 2, 3, 4, \dots$
16. (a); Explanation : The given sequence is a combination of two series : I, Z, W, T, Q, ? And II. S, O, K, G, ? In first series, letters are continuously decreasing by 3 and in second one there is decrement of 4.
17. (d); It is a combination of 2 series, first series 6, 11, 18, 27, ... Which follow sequence as $+5, +7, +9, +11, \dots$ and second series is 11, 20, 31, ..., which follows sequence as $+9, +11, +13, \dots$ So next, missing term is $13 + 31 = 44$.
18. (a); The sequence is bcabca/bcabca/bcabca so missing term is caba.
19. (b); The pattern is -66, -55, -44, -33, -22. So missing term is $297 - 55 = 242$.
20. (b); The main sequence is lmn, increment of letter is reverse order. The sequence is lmn lmn lmn lmn lmn So missing term is mlnl.

21. (b); The difference between digits are + 12, + 20, + 28, + 36, + 44, so missing term is $99 + 44 = 143$.
22. (d); The pattern is $- 20, - 25, - 30, \dots$, So its missing term will be $- 10 - 40 = - 50$.
23. (b); Consecutive letter no. as +2, +3, +4, +5,..., (no of letter) and upcoming term is increase by place value of +2. So missing term is STUVW.
24. (b); Combination of 2 series and then 1st series is 62, 68, 74, 80, ..., having -6 difference and 2nd series is 57, 52, 47, ..., having -5 so missing term will be 42 and 86.
25. (a); There is one place value increment, in first option it follows.
26. (d); In given sequence first letter is decrease by 4, second letter is increased with five place value and 3rd letter decrease with 3 digit.
27. (b); The sequence is $-2, +2, -2, +2$. So missing terms is RH.
28. (c); The sequence is $+101, +202, +404, +808\dots$ So, missing term is 858.
29. (d); The sequence is $+320, +520, +720, \dots$ So, missing term is 2780.
30. (b); Here the respective difference between the terms is as follows :
2, 4, 6, 8,
Therefore, $12 + 8 = 20$
which is the required term.
31. (c); Here the respective difference between the term is as follows :
2, 4, 8, 16, 32, 64,
Therefore, the required term will be $67 + 64 = 131$
32. (a); Here on adding 1 to the double of the first term we get the next term.
As required- $3 \times 2 + 1 = 7$
 $7 \times 2 + 1 = 15$
 $15 \times 2 + 1 = 31$
 $31 \times 2 + 1 = 63$
 $63 \times 2 + 1 = 127$
 $127 \times 2 + 1 = 255$
33. (c); The term follow as $(x^4 - 4)$ where x run as 2, 3, 4,
So, wrong term is 620.
34. (c); Here, the respective difference between terms is as follows : 5, 10, 15, 20, 25
As, $7 + 5 = 12$
 $12 + 10 = 22$
 $22 + 15 = 37$
 \therefore the next term will be $= 37 + 20 = 57$



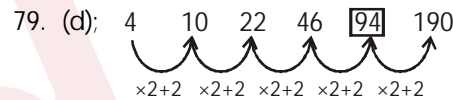
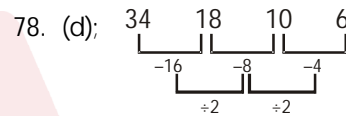
36. (b); The difference in 1st, 2nd and 3rd digit are follow $-1, +1, -1$ as respectively.
37. (a); The sequence is $\times 2 + 1, \times 3 + 2, \times 4 + 3, \times 5 + 4, \dots$, So term is 719.
38. (a); Here the letter series is as follows-
acb bca aab baa aab baa
39. (c); Here the letter series is as follows-
ccd dcn ccd dcn ndd dcn ndd



41. (a); The sequence is $+ 5, + (5 \times 4), + (20 \times 4), + (80 \times 4), + (320 \times 4)$. So term is 1715
42. (a); Two series are present one is 12, 24, 44, ... having difference is 12, 20 so next term is 70. Second is 3, 19, 43, ... having difference $+ 16, + 24$ so term is 43.
43. (b); The sequence is $+16, +32, +48, + 16, + 32, \dots$ So term is 33.
44. (c); The sequence is $16^2, 5^2, 14^2, 7^2, 12^2, 9^2$. So terms is 144.
45. (d); The sequence is, $-(6 \times 5), -(6 \times 4), -(6 \times 3), -(6 \times 2)$. So term is 16.
46. (a); The sequence is $[(5)^2 - 0], (10^2 - 2^2), (16^2 - 5^2), (23^2 - 9^2), (31^2 - 14^2)$
47. (b); In upper side sequence is $+3, +4, +5, +6, \dots$ on denominator the sequence is 2, 4, 8, 16.
48. (a); The sequence is $-1^2, -3^2, -5^2, -7^2, -11^2, -13^2$. So term is 1411.
49. (c); The sequence is $+2, +3, +5, +8, +13$. So term is 24.
50. (b); $\sqrt{5764801} = \sqrt{2401} \Rightarrow 49$ So, $\sqrt{49} = 7$.
51. (a); The sequence is $\times 2, -6, \times 2, -6, \times 2, -6$. So term is 132.
52. (c); The sequence is $+0.5, +1.5, +2.5, +3.5$. So term is 8.7
53. (d); The sequence is $+3, \times 3, +3, \times 3$. So, term is 57.
54. (b); The unit place replacement by 6 and alternate decrement of digits so term is 1006.
55. (a); The sequence is $(\times 7 + 1), (\times 7 + 3), (\times 7 + 5)$. So term is 14938.

56. (c); The sequence is $\overset{+11}{-35}, \overset{+22}{-46}, -68$. So term is 4768.
57. (d); The sequence is 3, 4, 6, 9, 13, 18 with difference of +1, +2, +3,. So change them into alphabets then term is R.
58. (a); The sequence in alphabet is +1, -1, +1, -1 So term is FKTA.
59. (a); Here is combination of 3 set and their consecutive increment present here. So there is OP.
60. (b); The sequence is +3, -1, +3, -1, +3, -1. So term is R, Q.
61. (a); In this sequence word's letters are arranged in 264135 order. So ITBHRA changed in 264135 sequence then term will be TAHIBR.
62. (c); The given format is roman format of 51, 71, 91, 111, 131. So next term is CLI.
63. (c); Here the sum of unit digit and tenth digit is the 100th digit.
As, $1 + 4 = 5, 4 + 1 = 5$
 $2 + 1 = 3, 3 + 4 = 7$
 $5 + 4 = 9$, But in 816
 $6 + 1 = 7$ not 8.
64. (d); The sequence is DMRC | DMRC | DMRC | DMRC. So missing term is MMRM
65. (a); The sequence is Book Now/Book Now / Bo. So missing term ONBNB.
66. (b); ZA YB/ZAYB/ZAYB. So missing term is ZBAZB.
67. (c); The sequence is baamb/baamb/baamb. So sequence is ambab.
68. (d); The sequence is ababbma/ababbma/ababb. So missing term is ambma.
69. (a); The pattern is $\times 1.5, \times 1.5, \times 1.5, \times 1.5$. So missing term is 87.75.
70. (b); The pattern is $\overset{+7}{+85}, \overset{+7}{+92}, \overset{+7}{+99}, \overset{+7}{+106}, \overset{+7}{+113}, \overset{+7}{+120}$. So missing term is 642.
71. (a); $\begin{array}{ccccccc} 3 & \xrightarrow{+3} & 6 & \xrightarrow{+3} & 9 & \xrightarrow{+3} & 12 \\ C & & F & & I & & L \\ 13 & \xrightarrow{+3} & 16 & \xrightarrow{+3} & 19 & \xrightarrow{+3} & 22 \\ M & & P & & S & & V \\ 7 & \xrightarrow{+3} & 10 & \xrightarrow{+3} & 13 & \xrightarrow{+3} & 16 \\ G & & J & & M & & P \end{array}$
72. (b); The pattern is $\times 1, \times 2.5, \times 4, \times 5.5, \times 7$. So $55 \times 4 = 220$, then missing term is 1210.

73. (a); The pattern is $\left(\times \frac{1}{2} + 0.5\right), + \left(\times \frac{1}{2} + 0.5\right), + \left(\times \frac{1}{2} + 0.5\right)$. So missing term is 19.125.
74. (c); The patter is $\div 5, \div 2.5, \div 5, \div 2.5$. So missing term is 644.
75. (b); The sequence is $(\times 3, + 2 \times 3), (\times 4, + 3 \times 4), (\times 5, + 4 \times 5)$. So, missing term is 16212.
76. (d); The pattern is add one in previous term and then multiplication with natural numbers. Example: $(a + 1) \times 1 = 10, (10 + 1) \times 2 = 22, (22 + 1) \times 3 = 69$ So missing term is 22.
77. (c); The pattern is $10^6, 9^5, 8^4, 7^3, 6^2, 5^1$. So missing term is 343.



80. (a); The pattern is $(\times 15 - 14), (\times 14 - 13), (\times 13 - 12), (\times 12 - 11)$. So missing term is 1681.

Distinct Solutions

81. (d); Explanation : Each term in the series is obtained by adding 1 to the square of the preceding term. So, missing term = $(26)^2 + 1 = 677$.
82. (b); Explanation : Clearly, $3 \times 3 = 9, 9 \times 3 = 27, 27 \times 3 = 81, \dots$ So, the series is in G.P. in which $a = 3, r = 3$. Therefore 8th term = $ar^{8-1} = ar^7 = 3 \times 3^7 = (3 \times 2187) = 6561$.
83. (b); Explanation : The pattern is $\times 2, \times 3/2, \times 2, \times 3/2, \times 2, \dots$ So, missing term = $18 \times 3/2 = 27$.
84. (a); Explanation : The pattern is +1, +3, +6, ... i.e. +1, + $(1 + 2)$, + $(1 + 2 + 3)$, ..., So, missing term = $27 + (1 + 2 + 3 + 4 + 5) = 42$.
85. (b); Explanation : The sun of any three consecutive terms of the series gives the next term, So, missing number = $6 + 12 + 22 = 40$.
86. (c); Alphabetical series are having place value as 1, 2, 3, 5, 7, 11, 13 are prime numbers. So missing terms is M.
87. (d); The pattern is $\times 2 + 4, \times 3 + 4, \times 4 + 4, \times 5 + 4 \dots$ So missing term is $18 \times 3 + 4 = 58$.

88. (b); The alphabet is changed with their place value then these are 225, 256, 289, 324,..., Which are square value of 15, 16, 17, 18,. So, next term is CBD.
89. (c); The sequence is $\times 0.5 + 1.5$, $\times 1 + 1.5$, $\times 1.5 + 1.5$. So, missing term is 9.
90. (d); The sequence is $\div 6$, $\div 5$, $\div 4$, $\div 3$. So missing term is 0.55
91. (a); The sequence is $+2^2$, $+2^4$, $+2^6$, $+2^8$, ... So, second term is 23 not 22.
92. (b); Here the series is as follows :
 $1^2 - 2 = -1$ $4^2 - 2 = 14$
 $2^2 - 2 = 2$ $5^2 - 2 = 23$
 $3^2 - 2 = 7$ $6^2 - 2 = 34$
93. (a); The sequence is $\times 3$, $+ 4$, $+ 5$, $+ 6$, $\times 7$, $+ 8$. So term is 40.
94. (d); The sequence is $- 15$, $+ 14$, $- 13$, $+ 12$, -11 . So term is 70.
95. (a); On looking from the end, we find that the difference between the numbers is respectively 26, 22, 18, 14, 10, 6. Therefore, 8 should come in place of 6.
96. (b); The sequence is -1 , $+5$, -9 , $+13$ in first letter and in second letter, sequence is -5 , $+9$, -13 , $+17$. So next missing term is EC.
97. (d); The pattern is $\times 2 - 3$, $\times 3 - 4$, $\times 4 - 5$, $\times 5 - 6$, $\times 6 - 7$. So missing term is 1263.
98. (b); The pattern is $(\times 1 + 7 \times 1)$, $(\times 2 + 6 \times 2)$, $(\times 3 + 5 \times 3)$. So missing term is 141.
99. (c); There is 15 days difference in between two given data.
100. (a); The sequence is $+8$, $+(8 + 10)$, $+(18 + 20)$, $+(38 + 40) + (78 + 80)$ So term is 305.

Previous Year Solutions

1. (d); $D \xrightarrow{+3} G \xrightarrow{+3} J \xrightarrow{+3} M \xrightarrow{+3} P$
 $\bar{5} \xrightarrow{+4} \bar{9} \xrightarrow{+5} \bar{14} \xrightarrow{+6} \bar{20} \xrightarrow{+7} \bar{27}$
2. (c); $D \xrightarrow{+2} F \xrightarrow{+2} H \xrightarrow{+2} J$
 $W \xrightarrow{-2} U \xrightarrow{-2} S \xrightarrow{-2} Q$
 $E \xrightarrow{+2} G \xrightarrow{+2} I \xrightarrow{+2} K$
 $V \xrightarrow{-2} T \xrightarrow{-2} R \xrightarrow{-2} P$
3. (c); The gap between E,G,J is $+2$, $+3$. Similarly the gap between V, T, Q is -2 , -3 . So, new group will be $+ 4$ from J and $- 4$ from Q. Hence, it will be NM.
4. (c); $313 \quad 623 \quad 933 \quad 1243 \quad \boxed{1553}$
 $\quad \quad \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
 $\quad \quad \quad +310 \quad +310 \quad +310 \quad +310$
5. (c); $B \xrightarrow{+3} E \xrightarrow{+4} I \xrightarrow{+5} N$
 $2 \xrightarrow{+1} 3 \xrightarrow{+1} 4 \xrightarrow{+1} 5$
 $D \xrightarrow{+4} H \xrightarrow{+5} M \xrightarrow{+6} S$
6. (a); $a \quad c \quad b \quad \boxed{d} \quad c \quad e \quad \boxed{d} \quad f \quad \boxed{e}$
 $\quad \quad \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
7. (b); QST \boxed{R} / QS \boxed{T} R / Q \boxed{S} TR / \boxed{Q} STR
8. (a); $A \xrightarrow{+5} F \xrightarrow{+5} K \xrightarrow{+5} P$
 $M \xrightarrow{+4} Q \xrightarrow{+4} U \xrightarrow{+4} Y$
 $V \xrightarrow{+2} X \xrightarrow{+2} Z \xrightarrow{+2} B$
9. (d); $27 \quad 32 \quad 30 \quad 35 \quad 33 \quad \boxed{38}$
 $\quad \quad \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
 $\quad \quad \quad +5 \quad +5 \quad +5$
 $\quad \quad \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow$
 $\quad \quad \quad -2 \quad -2$
10. (b); $71 \quad 59 \quad 48 \quad 38 \quad 29 \quad 21$
 $\quad \quad \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
 $\quad \quad \quad -12 \quad -11 \quad -10 \quad -9 \quad -8$
11. (b); aebd \boxed{c} / fjgi \boxed{h} / ko ln \boxed{m}
12. (b); $5255 \quad 5306 \quad \boxed{5357} \quad 5408 \quad 5459$
 $\quad \quad \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
 $\quad \quad \quad +51 \quad +51 \quad +51 \quad +51$
13. (a); $b \xrightarrow{+1} c \xrightarrow{+1} d \xrightarrow{+1} e \xrightarrow{+1} f$
 $3 \xrightarrow{\times 2} 6 \xrightarrow{\times 2} 12 \xrightarrow{\times 2} 24 \xrightarrow{\times 2} 48$
 $P \xrightarrow{+2} R \xrightarrow{+2} T \xrightarrow{+2} V \xrightarrow{+2} X$

14. (a); $c \xrightarrow{+2} e \xrightarrow{+2} g \xrightarrow{+2} i \xrightarrow{+2} k$
 $6 \xrightarrow{+4} 10 \xrightarrow{+4} 14 \xrightarrow{+4} 18 \xrightarrow{+4} 22$

15. (a); $B \xrightarrow{+7} I \xrightarrow{+7} P \xrightarrow{+7} W$
 $D \xrightarrow{+7} K \xrightarrow{+7} R \xrightarrow{+7} Y$
 $F \xrightarrow{+7} M \xrightarrow{+7} T \xrightarrow{+7} A$
 $H \xrightarrow{+7} O \xrightarrow{+7} V \xrightarrow{+7} C$

16. (c); $2 \xrightarrow{+5} 7 \xrightarrow{-6} 1 \xrightarrow{+5} 6 \xrightarrow{-6} 0 \xrightarrow{+5} 5 \xrightarrow{-6} -1 \xrightarrow{+5} 4 \xrightarrow{-6} -2 \xrightarrow{+5} 3$

17. (d); $1 \times 1 + (1)^2 = 1 + 1 = 2;$
 $2 \times 2 + (2)^2 = 4 + 4 = 8;$
 $8 \times 3 + (3)^2 = 24 + 9 = 33;$
 $33 \times 4 + (4)^2 = 132 + 16 = 148;$
 $148 \times 5 + (5)^2 = 740 + 25 = 765$

18. (a); $18 \xrightarrow{+3} 21 \xrightarrow{-2} 19 \xrightarrow{+3} 22 \xrightarrow{-2} 20 \xrightarrow{+3} 23 \xrightarrow{-2} 21 \xrightarrow{+3} 24 \xrightarrow{-2} 22 \xrightarrow{+3} 25 \xrightarrow{-2} 23 \xrightarrow{+3} 26 \xrightarrow{-2} 24 \xrightarrow{+3} 27$

19. (b); $A \xrightarrow{+1} B \xrightarrow{+1} C \xrightarrow{+1} D \xrightarrow{+1} E$
 $J \xrightarrow{-1} I \xrightarrow{-1} H \xrightarrow{-1} G \xrightarrow{-1} F$
 $K \xrightarrow{+1} L \xrightarrow{+1} M \xrightarrow{+1} N \xrightarrow{+1} O$
 $T \xrightarrow{-1} S \xrightarrow{-1} R \xrightarrow{-1} Q \xrightarrow{-1} P$
 $U \xrightarrow{+1} V \xrightarrow{+1} W \xrightarrow{+1} X \xrightarrow{+1} Y$

20. (d); $h \xrightarrow{+3} k \xrightarrow{+3} n$
 $g \xrightarrow{+3} j \xrightarrow{+3} m$
 $f \xrightarrow{+3} i \xrightarrow{+3} l$

21. (b); $210 \xrightarrow{-15} 195 \xrightarrow{-20} 175 \xrightarrow{-25} 150 \xrightarrow{-30} 120 \xrightarrow{-35} 85$

22. (a); $XY \xrightarrow{Z} K / X \xrightarrow{Y} ZK /$
 $X \xrightarrow{Y} YZK / XYZ \xrightarrow{K} / X$

23. (d); $ac \xrightarrow{d} / bd \xrightarrow{e} / ce \xrightarrow{f} / df \xrightarrow{g} / egh$

24. (d); $W \xrightarrow{-2} U \xrightarrow{-2} S \xrightarrow{-2} Q \xrightarrow{-2} O$
 $S \xrightarrow{-4} O \xrightarrow{-4} K \xrightarrow{-4} G \xrightarrow{-4} C$

25. (d); Obviously, the next term will be MNNO.

26. (b); $1, 1 \xrightarrow{+5} 6, 6 \xrightarrow{+5} 11, 11 \xrightarrow{+5} 16, 16 \xrightarrow{+5} 21$

27. (d); $6 \xrightarrow{-1} 5 \xrightarrow{-1} 4 \xrightarrow{-1} 3$
 $3 \xrightarrow{+1} 4 \xrightarrow{+1} 5 \xrightarrow{+1} 6$
 $4 \xrightarrow{-1} 3 \xrightarrow{-1} 2 \xrightarrow{-1} 1$
 $1 \xrightarrow{+1} 2 \xrightarrow{+1} 3 \xrightarrow{+1} 4$

28. (b); $4 \xrightarrow{+4} 8 \xrightarrow{+5} 13 \xrightarrow{+6} 19 \xrightarrow{+7} 26$
 $E \xrightarrow{+4} I \xrightarrow{+5} N \xrightarrow{+6} T \xrightarrow{+7} A$

29. (d); $h \xrightarrow{f} eg / h \xrightarrow{f} fe g / h \xrightarrow{f} eg / hfe \xrightarrow{g}$

30. (a); $1 \xrightarrow{0} 01112 / 1 \xrightarrow{0} 01112 / 1 \xrightarrow{0} 01112$

31. (a); $C \xrightarrow{+6} I \xrightarrow{+6} O \xrightarrow{+6} U$
 $F \xrightarrow{+5} K \xrightarrow{+5} P \xrightarrow{+5} U$
 $I \xrightarrow{+4} M \xrightarrow{+4} Q \xrightarrow{+4} U$

32. (b); $AB \xrightarrow{C} DE \xrightarrow{F} GH$
 $C \xrightarrow{+3} F \xrightarrow{+3} I$

$ZY \xrightarrow{X} WV \xrightarrow{U} TS$
 $X \xrightarrow{-3} U \xrightarrow{-3} R$

33. (c); $18 \xrightarrow{+5} 23 \xrightarrow{+5} 28 \xrightarrow{+5} 33 \xrightarrow{+5} 38$

34. (d); $8 \xrightarrow{\times 4} 29 \xrightarrow{+84} 113 \xrightarrow{+336} 449 \xrightarrow{+1344} 1793$

35. (c); $B \xrightarrow{+1} C \xrightarrow{+2} E \xrightarrow{+3} H$
 $H \xrightarrow{+4} L \xrightarrow{+5} Q \xrightarrow{+6} W$

36. (b); a \boxed{b} \boxed{b} \boxed{n} / a \boxed{bb} \boxed{n} / \boxed{a} \boxed{bb} \boxed{n} / abbn

37. (d); $3 + 1 = 4$; $3 + 4 = 7$;
 $4 + 7 = 11$; $7 + 11 = 18$
 $11 + 18 = 29$; $18 + 29 = 47$

38. (a); $A \xrightarrow{+2} C \xrightarrow{+2} E \xrightarrow{+2} G \xrightarrow{+2} I \xrightarrow{+2} K$
 $G \xrightarrow{+2} I \xrightarrow{+2} K \xrightarrow{+2} M \xrightarrow{+2} O \xrightarrow{+2} Q$
 $M \xrightarrow{+2} O \xrightarrow{+2} Q \xrightarrow{+2} S \xrightarrow{+2} U \xrightarrow{+2} W$
 $S \xrightarrow{+2} U \xrightarrow{+2} W \xrightarrow{+2} Y \xrightarrow{+2} A \xrightarrow{+2} C$
 $Y \xrightarrow{+2} A \xrightarrow{+2} C \xrightarrow{+2} E \xrightarrow{+2} G \xrightarrow{+2} I$

39. (c); $975 \xrightarrow{-111} 864 \xrightarrow{-111} 753 \xrightarrow{-111} 642 \xrightarrow{-111} \boxed{531}$

40. (b); $8 \xrightarrow{\times 3} 24 \xrightarrow{+2} 12 \xrightarrow{\times 3} \boxed{36} \xrightarrow{+2} 18 \xrightarrow{\times 3} 54$

41. (a); a a b a / aaba / aa ba / a aba

42. (b); There are two alternative series :

$a \xrightarrow{+2} c \xrightarrow{+2} e \xrightarrow{+2} g \xrightarrow{+2} i$

$r \xrightarrow{+1} s \xrightarrow{+1} t \xrightarrow{+1} u$

Therefore, ? = ui

43. (b); $P \xrightarrow{+3} S \xrightarrow{+3} V \xrightarrow{+3} Y \xrightarrow{+3} B$
 $E \xrightarrow{+3} H \xrightarrow{+3} K \xrightarrow{+3} N \xrightarrow{+3} Q$
 $T \xrightarrow{+3} W \xrightarrow{+3} Z \xrightarrow{+3} C \xrightarrow{+3} F$
 $I \xrightarrow{+3} L \xrightarrow{+3} O \xrightarrow{+3} R \xrightarrow{+3} U$

Now, $P \xrightarrow{+4} T$, $E \xrightarrow{+4} I$

Therefore, the first letter of the first term should be

$E \xrightarrow{-4} A$

$A \xrightarrow{+3} D \xrightarrow{+3} G \xrightarrow{+3} J \xrightarrow{+3} M$

44. (d); $0 \xrightarrow{+4} 4 \xrightarrow{+10} 14 \xrightarrow{+16} 30 \xrightarrow{+22} 48 \xrightarrow{+28} \boxed{100} \xrightarrow{+80} 180$

45. (c); $36 \xrightarrow{-8} 28 \xrightarrow{-4} 24 \xrightarrow{-2} 22 \xrightarrow{-1} \boxed{21}$

46. (c); $7 \xrightarrow{\times 2} 14 \xrightarrow{+2} 16 \xrightarrow{\times 2} 32 \xrightarrow{+4} 36 \xrightarrow{\times 2} 72 \xrightarrow{+8} 80$

47. (b); ac \boxed{a} c / ab \boxed{a} b / a c a \boxed{c}
 \boxed{c} / aba \boxed{b} / a c a \boxed{c}

48. (d); $A \xrightarrow{+3} D \xrightarrow{+3} G \xrightarrow{+3} J$
 $O \xrightarrow{+3} R \xrightarrow{+3} U \xrightarrow{+3} X$
 $B \xrightarrow{+3} E \xrightarrow{+3} H \xrightarrow{+3} K$
 $N \xrightarrow{+3} Q \xrightarrow{+3} T \xrightarrow{+3} W$

49. (d); $56 \xrightarrow{+8} 64 \xrightarrow{+10} 74 \xrightarrow{+12} 86 \xrightarrow{+14} 100 \xrightarrow{+16} 116 \xrightarrow{+18} 134 \xrightarrow{+20} 154 \xrightarrow{+22} 176 \xrightarrow{+24} 200 \xrightarrow{+26} 226 \xrightarrow{+28} 254 \xrightarrow{+30} 284 \xrightarrow{+32} 316 \xrightarrow{+34} 350 \xrightarrow{+36} 386 \xrightarrow{+38} 424 \xrightarrow{+40} 464 \xrightarrow{+42} 506 \xrightarrow{+44} 550 \xrightarrow{+46} 596 \xrightarrow{+48} 644 \xrightarrow{+50} 694 \xrightarrow{+52} 746 \xrightarrow{+54} 800 \xrightarrow{+56} 856 \xrightarrow{+58} 914 \xrightarrow{+60} 974 \xrightarrow{+62} 1036 \xrightarrow{+64} 1100 \xrightarrow{+66} 1166 \xrightarrow{+68} 1234 \xrightarrow{+70} 1306 \xrightarrow{+72} 1380 \xrightarrow{+74} 1456 \xrightarrow{+76} 1534 \xrightarrow{+78} 1614 \xrightarrow{+80} 1694 \xrightarrow{+82} 1776 \xrightarrow{+84} 1860 \xrightarrow{+86} 1946 \xrightarrow{+88} 2034 \xrightarrow{+90} 2124 \xrightarrow{+92} 2216 \xrightarrow{+94} 2310 \xrightarrow{+96} 2406 \xrightarrow{+98} 2504 \xrightarrow{+100} 2604 \xrightarrow{+102} 2706 \xrightarrow{+104} 2810 \xrightarrow{+106} 2916 \xrightarrow{+108} 3024 \xrightarrow{+110} 3134 \xrightarrow{+112} 3246 \xrightarrow{+114} 3360 \xrightarrow{+116} 3476 \xrightarrow{+118} 3594 \xrightarrow{+120} 3714 \xrightarrow{+122} 3836 \xrightarrow{+124} 3960 \xrightarrow{+126} 4086 \xrightarrow{+128} 4214 \xrightarrow{+130} 4344 \xrightarrow{+132} 4476 \xrightarrow{+134} 4610 \xrightarrow{+136} 4746 \xrightarrow{+138} 4884 \xrightarrow{+140} 5024 \xrightarrow{+142} 5166 \xrightarrow{+144} 5310 \xrightarrow{+146} 5456 \xrightarrow{+148} 5604 \xrightarrow{+150} 5754 \xrightarrow{+152} 5906 \xrightarrow{+154} 6060 \xrightarrow{+156} 6216 \xrightarrow{+158} 6374 \xrightarrow{+160} 6484 \xrightarrow{+162} 6596 \xrightarrow{+164} 6710 \xrightarrow{+166} 6826 \xrightarrow{+168} 6944 \xrightarrow{+170} 7064 \xrightarrow{+172} 7186 \xrightarrow{+174} 7310 \xrightarrow{+176} 7436 \xrightarrow{+178} 7564 \xrightarrow{+180} 7694 \xrightarrow{+182} 7826 \xrightarrow{+184} 7960 \xrightarrow{+186} 8096 \xrightarrow{+188} 8234 \xrightarrow{+190} 8374 \xrightarrow{+192} 8516 \xrightarrow{+194} 8660 \xrightarrow{+196} 8806 \xrightarrow{+198} 8954 \xrightarrow{+200} 9104 \xrightarrow{+202} 9256 \xrightarrow{+204} 9410 \xrightarrow{+206} 9566 \xrightarrow{+208} 9724 \xrightarrow{+210} 9884 \xrightarrow{+212} 10046 \xrightarrow{+214} 10210 \xrightarrow{+216} 10376 \xrightarrow{+218} 10544 \xrightarrow{+220} 10714 \xrightarrow{+222} 10886 \xrightarrow{+224} 11060 \xrightarrow{+226} 11236 \xrightarrow{+228} 11414 \xrightarrow{+230} 11594 \xrightarrow{+232} 11776 \xrightarrow{+234} 11960 \xrightarrow{+236} 12146 \xrightarrow{+238} 12334 \xrightarrow{+240} 12524 \xrightarrow{+242} 12716 \xrightarrow{+244} 12910 \xrightarrow{+246} 13106 \xrightarrow{+248} 13304 \xrightarrow{+250} 13504 \xrightarrow{+252} 13706 \xrightarrow{+254} 13910 \xrightarrow{+256} 14116 \xrightarrow{+258} 14324 \xrightarrow{+260} 14534 \xrightarrow{+262} 14746 \xrightarrow{+264} 14960 \xrightarrow{+266} 15176 \xrightarrow{+268} 15394 \xrightarrow{+270} 15614 \xrightarrow{+272} 15836 \xrightarrow{+274} 16060 \xrightarrow{+276} 16286 \xrightarrow{+278} 16514 \xrightarrow{+280} 16744 \xrightarrow{+282} 16976 \xrightarrow{+284} 17210 \xrightarrow{+286} 17446 \xrightarrow{+288} 17684 \xrightarrow{+290} 17924 \xrightarrow{+292} 18166 \xrightarrow{+294} 18410 \xrightarrow{+296} 18656 \xrightarrow{+298} 18904 \xrightarrow{+300} 19154 \xrightarrow{+302} 19406 \xrightarrow{+304} 19660 \xrightarrow{+306} 19916 \xrightarrow{+308} 20174 \xrightarrow{+310} 20434 \xrightarrow{+312} 20696 \xrightarrow{+314} 20960 \xrightarrow{+316} 21226 \xrightarrow{+318} 21494 \xrightarrow{+320} 21764 \xrightarrow{+322} 22036 \xrightarrow{+324} 22310 \xrightarrow{+326} 22586 \xrightarrow{+328} 22864 \xrightarrow{+330} 23144 \xrightarrow{+332} 23426 \xrightarrow{+334} 23710 \xrightarrow{+336} 24006 \xrightarrow{+338} 24304 \xrightarrow{+340} 24604 \xrightarrow{+342} 24906 \xrightarrow{+344} 25210 \xrightarrow{+346} 25516 \xrightarrow{+348} 25824 \xrightarrow{+350} 26134 \xrightarrow{+352} 26446 \xrightarrow{+354} 26760 \xrightarrow{+356} 27076 \xrightarrow{+358} 27394 \xrightarrow{+360} 27714 \xrightarrow{+362} 28036 \xrightarrow{+364} 28360 \xrightarrow{+366} 28686 \xrightarrow{+368} 29014 \xrightarrow{+370} 29344 \xrightarrow{+372} 29676 \xrightarrow{+374} 30010 \xrightarrow{+376} 30346 \xrightarrow{+378} 30684 \xrightarrow{+380} 31024 \xrightarrow{+382} 31366 \xrightarrow{+384} 31710 \xrightarrow{+386} 32056 \xrightarrow{+388} 32404 \xrightarrow{+390} 32754 \xrightarrow{+392} 33106 \xrightarrow{+394} 33460 \xrightarrow{+396} 33816 \xrightarrow{+398} 34174 \xrightarrow{+400} 34534 \xrightarrow{+402} 34896 \xrightarrow{+404} 35260 \xrightarrow{+406} 35626 \xrightarrow{+408} 35994 \xrightarrow{+410} 36364 \xrightarrow{+412} 36736 \xrightarrow{+414} 37110 \xrightarrow{+416} 37486 \xrightarrow{+418} 37864 \xrightarrow{+420} 38244 \xrightarrow{+422} 38626 \xrightarrow{+424} 39010 \xrightarrow{+426} 39396 \xrightarrow{+428} 39784 \xrightarrow{+430} 40174 \xrightarrow{+432} 40566 \xrightarrow{+434} 40960 \xrightarrow{+436} 41356 \xrightarrow{+438} 41754 \xrightarrow{+440} 42154 \xrightarrow{+442} 42556 \xrightarrow{+444} 42960 \xrightarrow{+446} 43366 \xrightarrow{+448} 43774 \xrightarrow{+450} 44184 \xrightarrow{+452} 44596 \xrightarrow{+454} 45010 \xrightarrow{+456} 45426 \xrightarrow{+458} 45844 \xrightarrow{+460} 46264 \xrightarrow{+462} 46686 \xrightarrow{+464} 47110 \xrightarrow{+466} 47536 \xrightarrow{+468} 47964 \xrightarrow{+470} 48394 \xrightarrow{+472} 48826 \xrightarrow{+474} 49260 \xrightarrow{+476} 49696 \xrightarrow{+478} 50134 \xrightarrow{+480} 50574 \xrightarrow{+482} 51016 \xrightarrow{+484} 51460 \xrightarrow{+486} 51906 \xrightarrow{+488} 52354 \xrightarrow{+490} 52804 \xrightarrow{+492} 53256 \xrightarrow{+494} 53710 \xrightarrow{+496} 54166 \xrightarrow{+498} 54624 \xrightarrow{+500} 55084 \xrightarrow{+502} 55546 \xrightarrow{+504} 56010 \xrightarrow{+506} 56476 \xrightarrow{+508} 56944 \xrightarrow{+510} 57414 \xrightarrow{+512} 57886 \xrightarrow{+514} 58360 \xrightarrow{+516} 58836 \xrightarrow{+518} 59314 \xrightarrow{+520} 59794 \xrightarrow{+522} 60276 \xrightarrow{+524} 60760 \xrightarrow{+526} 61246 \xrightarrow{+528} 61734 \xrightarrow{+530} 62224 \xrightarrow{+532} 62716 \xrightarrow{+534} 63210 \xrightarrow{+536} 63706 \xrightarrow{+538} 64204 \xrightarrow{+540} 64704 \xrightarrow{+542} 65206 \xrightarrow{+544} 65710 \xrightarrow{+546} 66216 \xrightarrow{+548} 66724 \xrightarrow{+550} 67234 \xrightarrow{+552} 67746 \xrightarrow{+554} 68260 \xrightarrow{+556} 68776 \xrightarrow{+558} 69294 \xrightarrow{+560} 69814 \xrightarrow{+562} 70336 \xrightarrow{+564} 70860 \xrightarrow{+566} 71386 \xrightarrow{+568} 71914 \xrightarrow{+570} 72444 \xrightarrow{+572} 72976 \xrightarrow{+574} 73510 \xrightarrow{+576} 74046 \xrightarrow{+578} 74584 \xrightarrow{+580} 75124 \xrightarrow{+582} 75666 \xrightarrow{+584} 76210 \xrightarrow{+586} 76756 \xrightarrow{+588} 77304 \xrightarrow{+590} 77854 \xrightarrow{+592} 78406 \xrightarrow{+594} 78960 \xrightarrow{+596} 79516 \xrightarrow{+598} 80074 \xrightarrow{+600} 80634 \xrightarrow{+602} 81196 \xrightarrow{+604} 81760 \xrightarrow{+606} 82326 \xrightarrow{+608} 82894 \xrightarrow{+610} 83464 \xrightarrow{+612} 84036 \xrightarrow{+614} 84610 \xrightarrow{+616} 85186 \xrightarrow{+618} 85764 \xrightarrow{+620} 86344 \xrightarrow{+622} 86926 \xrightarrow{+624} 87510 \xrightarrow{+626} 88096 \xrightarrow{+628} 88684 \xrightarrow{+630} 89274 \xrightarrow{+632} 89866 \xrightarrow{+634} 90460 \xrightarrow{+636} 91056 \xrightarrow{+638} 91654 \xrightarrow{+640} 92254 \xrightarrow{+642} 92856 \xrightarrow{+644} 93460 \xrightarrow{+646} 94066 \xrightarrow{+648} 94674 \xrightarrow{+650} 95284 \xrightarrow{+652} 95896 \xrightarrow{+654} 96510 \xrightarrow{+656} 97126 \xrightarrow{+658} 97744 \xrightarrow{+660} 98364 \xrightarrow{+662} 98986 \xrightarrow{+664} 99610 \xrightarrow{+666} 100236 \xrightarrow{+668} 100864 \xrightarrow{+670} 101494 \xrightarrow{+672} 102126 \xrightarrow{+674} 102760 \xrightarrow{+676} 103396 \xrightarrow{+678} 104034 \xrightarrow{+680} 104674 \xrightarrow{+682} 105316 \xrightarrow{+684} 105960 \xrightarrow{+686} 106606 \xrightarrow{+688} 107254 \xrightarrow{+690} 107904 \xrightarrow{+692} 108556 \xrightarrow{+694} 109210 \xrightarrow{+696} 109866 \xrightarrow{+698} 110524 \xrightarrow{+700} 111184 \xrightarrow{+702} 111846 \xrightarrow{+704} 112510 \xrightarrow{+706} 113176 \xrightarrow{+708} 113844 \xrightarrow{+710} 114514 \xrightarrow{+712} 115186 \xrightarrow{+714} 115860 \xrightarrow{+716} 116536 \xrightarrow{+718} 117214 \xrightarrow{+720} 117894 \xrightarrow{+722} 118576 \xrightarrow{+724} 119260 \xrightarrow{+726} 119946 \xrightarrow{+728} 120634 \xrightarrow{+730} 121324 \xrightarrow{+732} 122016 \xrightarrow{+734} 122710 \xrightarrow{+736} 123406 \xrightarrow{+738} 124104 \xrightarrow{+740} 124804 \xrightarrow{+742} 125506 \xrightarrow{+744} 126210 \xrightarrow{+746} 126916 \xrightarrow{+748} 127624 \xrightarrow{+750} 128334 \xrightarrow{+752} 129046 \xrightarrow{+754} 129760 \xrightarrow{+756} 130476 \xrightarrow{+758} 131194 \xrightarrow{+760} 131914 \xrightarrow{+762} 132636 \xrightarrow{+764} 133360 \xrightarrow{+766} 134086 \xrightarrow{+768} 134814 \xrightarrow{+770} 135544 \xrightarrow{+772} 136276 \xrightarrow{+774} 137010 \xrightarrow{+776} 137746 \xrightarrow{+778} 138484 \xrightarrow{+780} 139224 \xrightarrow{+782} 139966 \xrightarrow{+784} 140710 \xrightarrow{+786} 141456 \xrightarrow{+788} 142204 \xrightarrow{+790} 142954 \xrightarrow{+792} 143706 \xrightarrow{+794} 144460 \xrightarrow{+796} 145216 \xrightarrow{+798} 145974 \xrightarrow{+800} 146734 \xrightarrow{+802} 147496 \xrightarrow{+804} 148260 \xrightarrow{+806} 149026 \xrightarrow{+808} 149794 \xrightarrow{+810} 150564 \xrightarrow{+812} 151336 \xrightarrow{+814} 152110 \xrightarrow{+816} 152886 \xrightarrow{+818} 153664 \xrightarrow{+820} 154444 \xrightarrow{+822} 155226 \xrightarrow{+824} 156010 \xrightarrow{+826} 156796 \xrightarrow{+828} 157584 \xrightarrow{+830} 158374 \xrightarrow{+832} 159166 \xrightarrow{+834} 159960 \xrightarrow{+836} 160756 \xrightarrow{+838} 161554 \xrightarrow{+840} 162354 \xrightarrow{+842} 163156 \xrightarrow{+844} 163960 \xrightarrow{+846} 164766 \xrightarrow{+848} 165574 \xrightarrow{+850} 166384 \xrightarrow{+852} 167196 \xrightarrow{+854} 168010 \xrightarrow{+856} 168826 \xrightarrow{+858} 169644 \xrightarrow{+860} 170464 \xrightarrow{+862} 171286 \xrightarrow{+864} 172110 \xrightarrow{+866} 172936 \xrightarrow{+868} 173764 \xrightarrow{+870} 174594 \xrightarrow{+872} 175426 \xrightarrow{+874} 176260 \xrightarrow{+876} 177096 \xrightarrow{+878} 177934 \xrightarrow{+880} 178774 \xrightarrow{+882} 179616 \xrightarrow{+884} 180460 \xrightarrow{+886} 181306 \xrightarrow{+888} 182154 \xrightarrow{+890} 183004 \xrightarrow{+892} 183856 \xrightarrow{+894} 184710 \xrightarrow{+896} 185566 \xrightarrow{+898} 186424 \xrightarrow{+900} 187284 \xrightarrow{+902} 188146 \xrightarrow{+904} 189010 \xrightarrow{+906} 189876 \xrightarrow{+908} 190744 \xrightarrow{+910} 191614 \xrightarrow{+912} 192486 \xrightarrow{+914} 193360 \xrightarrow{+916} 194236 \xrightarrow{+918} 195114 \xrightarrow{+920} 195994 \xrightarrow{+922} 196876 \xrightarrow{+924} 197760 \xrightarrow{+926} 198646 \xrightarrow{+928} 199534 \xrightarrow{+930} 200424 \xrightarrow{+932} 201316 \xrightarrow{+934} 202210 \xrightarrow{+936} 203106 \xrightarrow{+938} 204004 \xrightarrow{+940} 204904 \xrightarrow{+942} 205806 \xrightarrow{+944} 206710 \xrightarrow{+946} 207616 \xrightarrow{+948} 208524 \xrightarrow{+950} 209434 \xrightarrow{+952} 210346 \xrightarrow{+954} 211260 \xrightarrow{+956} 212176 \xrightarrow{+958} 213094 \xrightarrow{+960} 214014 \xrightarrow{+962} 214936 \xrightarrow{+964} 215860 \xrightarrow{+966} 216786 \xrightarrow{+968} 217714 \xrightarrow{+970} 218644 \xrightarrow{+972} 219576 \xrightarrow{+974} 220510 \xrightarrow{+976} 221446 \xrightarrow{+978} 222384 \xrightarrow{+980} 223324 \xrightarrow{+982} 224266 \xrightarrow{+984} 225210 \xrightarrow{+986} 226156 \xrightarrow{+988} 227104 \xrightarrow{+990} 228054 \xrightarrow{+992} 229006 \xrightarrow{+994} 229960 \xrightarrow{+996} 230916 \xrightarrow{+998} 231874 \xrightarrow{+1000} 232834$

50. (a); The difference between the consecutive terms is 3, 6, 9, 12, 15.



Missing Numbers in the Figure

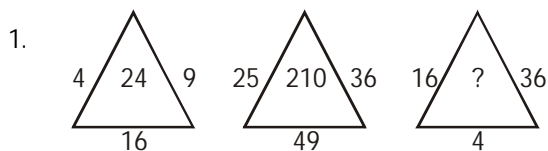
Missing numbers are given in the form of figures in which some numbers are given. We have to find out the logic from one figure and put this logic to another figure and generate the answer.

In such types of questions a figure consists of some (2,3, 4 etc) parts or cells. Each cell has a number which has some logical relation with numbers in other cells and follows a certain rule. One has to identify the missing number, marked by the question mark "?"

There is no limit to the types of patterns, but the basic thing is to find the inter-connection between numbers. There are four basic operations in arithmetic :

Addition (+), Subtraction (-), Multiplication (×) and Division (÷). The missing number can be found with the manipulation of these basic operations. The candidate should require a lot of practice for such type of questions. It is better if he/she designs his/her own patterns and plays with numbers. This will help to enhance the imagination of the candidate.

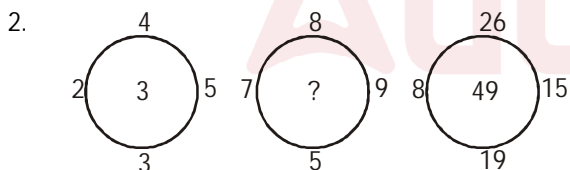
Solved Examples



- (a) 48 (b) 64
(c) 36 (d) 50

Sol. (a); Clearly the digits or numbers along the side of triangles are square.

$$\begin{aligned} 2^2 &= 4 & 5^2 &= 25 & 4^2 &= 16 \\ 3^2 &= 9 & 6^2 &= 36 & 6^2 &= 36 \\ 4^2 &= 16 & 7^2 &= 49 & 2^2 &= 4 \\ 2 \times 3 \times 4 &= 24 & 5 \times 6 \times 7 &= 210 & 4 \times 6 \times 2 &= 48 \end{aligned}$$

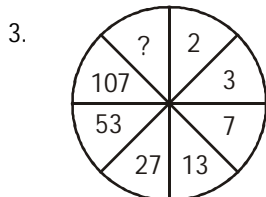


- (a) 6 (b) 8
(c) 14 (d) 19

Sol. (a); Here the pattern is first difference between right and left, bottom and top digits or number and then multiply the digits or numbers.

$$(4-3) \times (5-2) = 3; (8-5) \times (9-7) = 6$$

$$(26-19) \times (15-8) = 49$$



- (a) 1 (b) 210
(c) 0 (d) 213

Sol. (d); $2 \times 2 - 1 = 3$
 $7 \times 2 - 1 = 13$
 $27 \times 2 - 1 = 53$
 $107 \times 2 - 1 = 213$

$$3 \times 2 + 1 = 7$$

$$13 \times 2 + 1 = 27$$

$$53 \times 2 + 1 = 107$$

4.

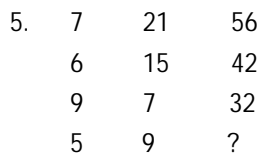
9	15	13
7	30	14
2	?	3
8	5	9

- (a) 5 (b) 6
(c) 9 (d) 25

Sol. (c); First, the sum of two number or digit then divided by lower digit or number and then answer such:

$$(9+7) \div 2 = 8, (13 + 14) \div 3 = 9, (15 + 30) \div$$

$$\boxed{9} = 5$$



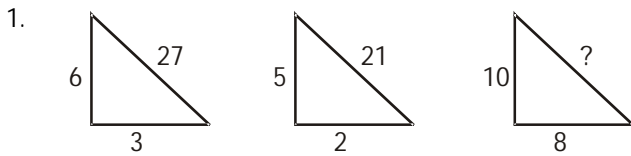
- (a) 27 (b) 28
(c) 39 (d) 46

Sol. (b); Number at third place from left to right = 2 × first number or digit + 2x second number or digit from left to right.

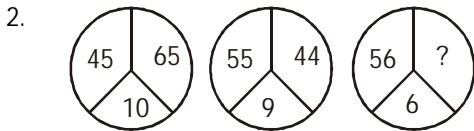
$$(7 \times 2) + (21 \times 2) = 56 \quad (6 \times 2) + (15 \times 2) = 42$$

$$(9 \times 2) + (7 \times 2) = 32 \quad (5 \times 2) + (9 \times 2) = 28$$

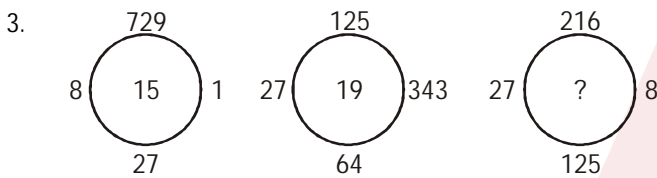
Practice Set



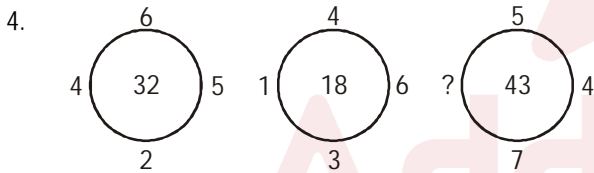
- (a) 57 (b) 54
(c) 50 (d) 60



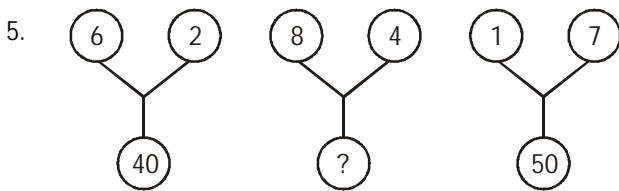
- (a) 15 (b) 10
(c) 12 (d) 17



- (a) 16 (b) 18
(c) 20 (d) 29



- (a) 1 (b) 2
(c) 4 (d) 5



- (a) 80 (b) 70
(c) 40 (d) 65

6.

5	4	7
6	10	8
4	11	?
60	220	56

- (a) 2 (b) 4
(c) 6 (d) 10

7.

30	17	21
12	8	9
6	7	7
12	2	?

- (a) 4 (b) 5
(c) 11 (d) 12

8.

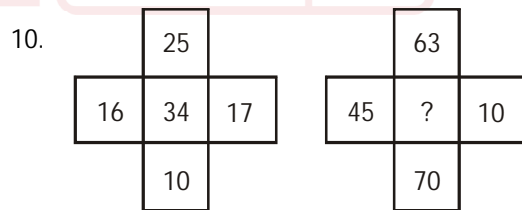
49	36	64
25	16	100
4	9	121
14	?	29

- (a) 43 (b) 69
(c) 45 (d) 13

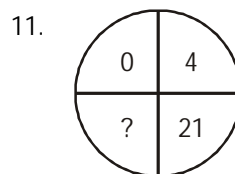
9.

9	6	7
8	12	5
3	2	?

- (a) 10 (b) 11
(c) 8 (d) 15



- (a) 94 (b) 95
(c) 76 (d) 10



- (a) 120 (b) 111
(c) 140 (d) 150

12. What will be at the place of x and y.

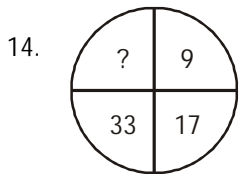
4B	36D	9F
5A	X	6E
6M	420	Y

- (a) 31C, 4P (b) 30C, 5P
 (c) 30C, 7Q (d) 40D, 6M

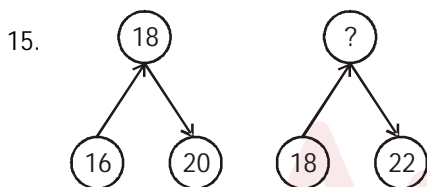
13.

2	7	9
7	3	4
9	8	?
126	168	216

- (a) 8 (b) 3
 (c) 6 (d) 36



- (a) 60 (b) 68
 (c) 55 (d) 65



- (a) 20 (b) 21
 (c) 23 (d) 25

16.

9	4	8
6	5	2
2	2	4
12	3	?

- (a) 10 (b) 20
 (c) 30 (d) 40

17.

2	14	28
3	9	27
4	?	40

- (a) 10 (b) 16
 (c) 12 (d) 32

18.

81	36	25
49	100	36
9	64	16
139	200	?

- (a) 77 (b) 107
 (c) 67 (d) 57

19.

169	64	81	30
625	?	49	50
1296	576	100	70

- (a) 324 (b) 289
 (c) 441 (d) 361

20.

649
253
143

1084
?
482

- (a) 401 (b) 586
 (c) 301 (d) 463

21.

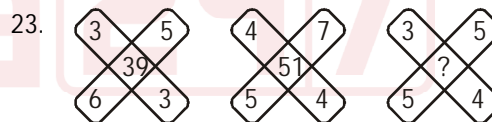
1	2	3
2	3	4
6	10	?

- (a) 18 (b) 24
 (c) 14 (d) 16

22.

1	2	3
4	5	6
7	8	9
27	38	?

- (a) 49 (b) 50
 (c) 51 (d) 52



- (a) 35 (b) 37
 (c) 45 (d) 47

24.

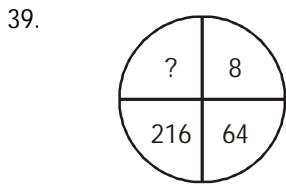
9	6	8
5	8	4
7	4	?
11	2	7

- (a) 4 (b) 7
 (c) 3 (d) 6

25. Find the missing number from the given responses :

4	9	17	6
20	5	8	9
7	23	9	9
?	9	4	19

- (a) 27 (b) 29
 (c) 22 (d) 26



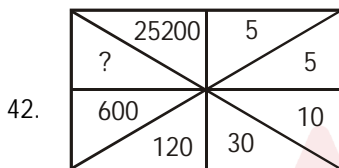
- (a) 343 (b) 512
 (c) 729 (d) 1000
40. The population of rats is increasing year after year in a village. Find out the missing population from the following information:
- | | | | | | | |
|------------|------|------|------|------|------|------|
| Years | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 |
| Population | 4 | 8 | 16 | ? | 44 | 64 |
- (a) 22 (b) 32
 (c) 28 (d) 34

Distinct Questions

41.

5	12	22
13	?	32
12	5	29

- (a) 16 (b) 32
 (c) 4 (d) 6



- (a) 1800 (b) 400
 (c) 3600 (d) 4500

43.

M	A	G
J	H	?
W	I	T

- (a) M (b) K
 (c) A (d) L

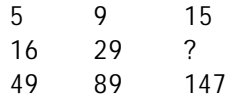
44.
$$\begin{pmatrix} 2 & 3 & 1 \\ 1 & 2 & -1 \\ 3 & 4 & ? \end{pmatrix}$$

- (a) 5 (b) 2
 (c) 1 (d) -2

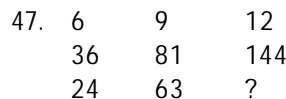
45. Find the missing number from the given responses.
- | | | |
|-----|------|-----|
| 173 | (24) | 526 |
| 431 | (18) | 325 |
| 253 | (?) | 471 |

- (a) 22 (b) 42
 (c) 30 (d) 06

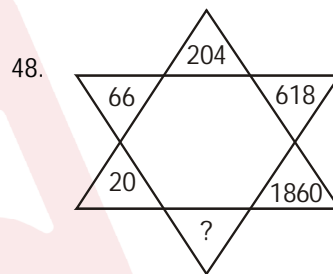
46. What is the number missing from the target?



- (a) 45 (b) 48
 (c) 51 (d) 54



- (a) 120 (b) 80
 (c) 94 (d) 102

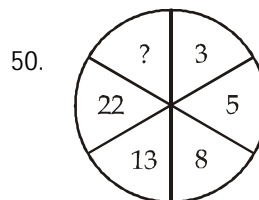


- (a) 5052 (b) 5586
 (c) 5094 (d) 4860

49.

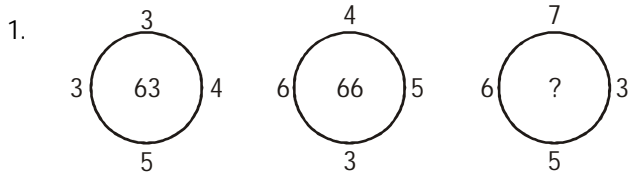
AZ	BY	CX
DW	EV	FU
GT	?	IR

- (a) HR (b) HS
 (c) HV (d) HU

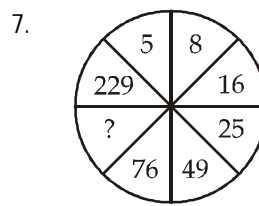


- (a) 1 (b) 26
 (c) 39 (d) 45

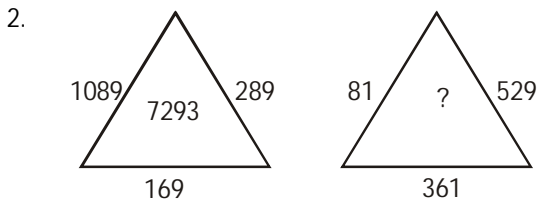
Previous Year Questions



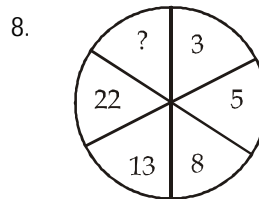
- (a) 57 (b) 53
(c) 105 (d) 111



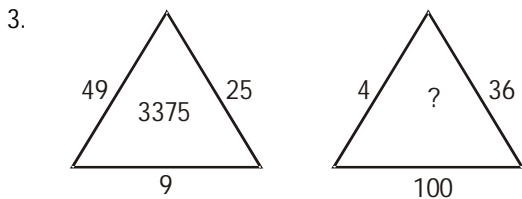
- (a) 148 (b) 150
(c) 125 (d) 53



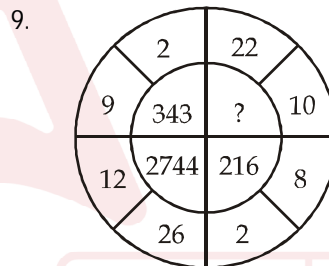
- (a) 3646 (b) 3189
(c) 3399 (d) 3933



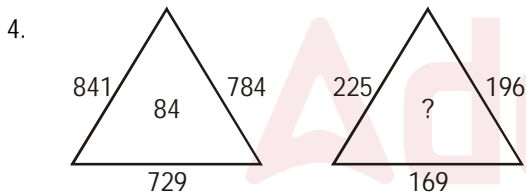
- (a) 1 (b) 26
(c) 39 (d) 45



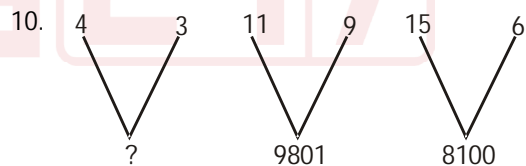
- (a) 2856 (b) 4268
(c) 5832 (d) 6464



- (a) 1000 (b) 1728
(c) 878 (d) 560



- (a) 82 (b) 62
(c) 42 (d) 32

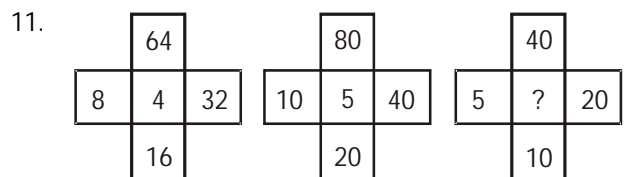


- (a) 2250 (b) 144
(c) 11036 (d) 1216

5.

9	5	6
7	6	7
4	8	?
252	240	210

- (a) 4 (b) 5
(c) 6 (d) 3

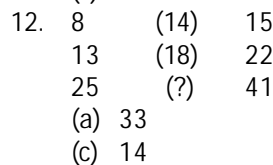


- (a) 0 (b) 2.5
(c) 10 (d) 20

6.

5	17	23
7	8	2
9	15	5
42	80	?

- (a) 50 (b) 60
(c) 70 (d) 98



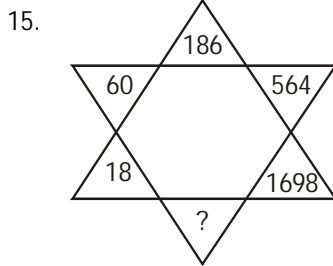
- (a) 33 (b) 42
(c) 14 (d) 32

13. $\begin{matrix} 2 & 2 & 256 \\ 3 & 2 & ? \\ 4 & 2 & 46656 \end{matrix}$

- (a) 2765 (b) 3125
(c) 8796 (d) 3008

14. $6 \times 3 = 13$ $5 \times 20 = 96$
 $11 \times 7 = 67$ $19 \times 11 = ?$

- (a) 191 (b) 194
(c) 207 (d) 209

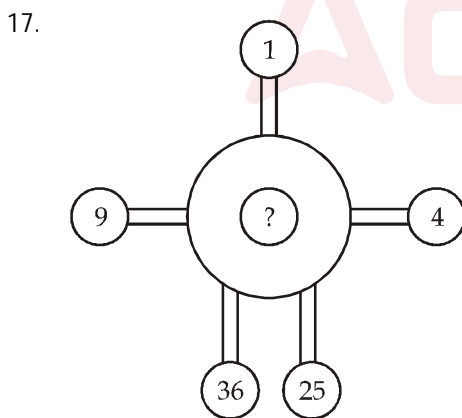


- (a) 5052 (b) 5100
(c) 5656 (d) 5510

16.

M	H	E
R	I	?
V	K	K

- (a) H (b) I
(c) G (d) F



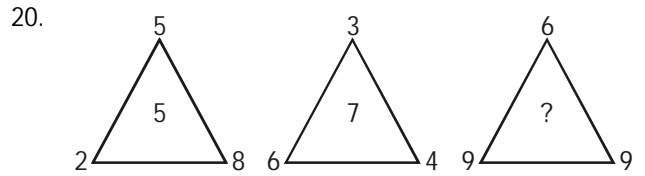
- (a) 15 (b) 27
(c) 16 (d) 28

18. $94 + 16 = 42$
 $89 + 23 = 78$
 $63 + 45 = ?$

- (a) 18 (b) 28
(c) 38 (d) 48

19. $\begin{matrix} 49 & 100 & 64 \\ 9 & 36 & 4 \\ 81 & 1 & 25 \\ 19 & ? & 15 \end{matrix}$

- (a) 14 (b) 16
(c) 17 (d) 18



- (a) 10 (b) 9
(c) 12 (d) 11

21.

13	9	24
11	?	6
16	20	10

- (a) 19 (b) 16
(c) 11 (d) 20

22.

2	4
256	16

3	1
1	81

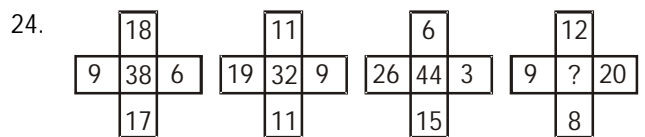
5	4
256	?

- (a) 625 (b) 1225
(c) 125 (d) 25

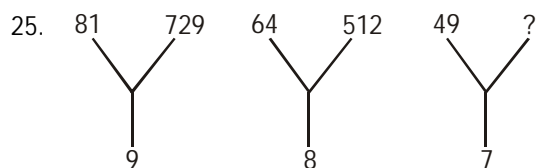
23.

1	3	7
2	4	4
4	5	9
3	2	3
50	70	?

- (a) 118 (b) 220
(c) 23 (d) 115



- (a) 31 (b) 40
(c) 7 (d) 36



- (a) 444 (b) 515
(c) 343 (d) 373