



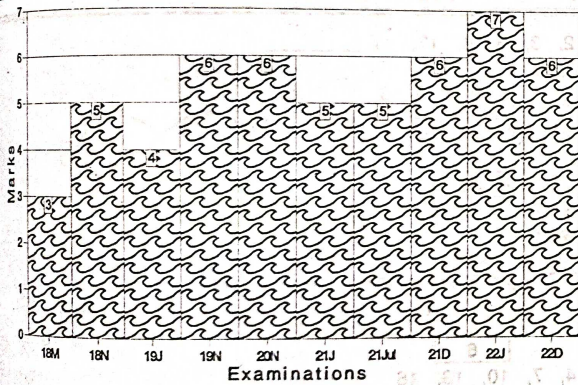


## NUMBER SERIES, CODING, DECODING AND ODD MAN OUT SERIES

Marks of Objective, Short Notes, Distinguish Between, Descriptive & Practical Questions

### Legend

Objective  Short Notes  Distinguish  Descriptive  Practical



For detailed analysis Login at [www.scanneradda.com](http://www.scanneradda.com)  
for registration and password see first page of this book.

### MULTIPLE CHOICE QUESTIONS AND ANSWERS

**Q1. Series:** A series is a sequence of numbers, where the sequence of numbers is obtained by some particular predefined rule and applying that predefined rule it is possible to find out the next term of the series.

**Series can be classified into three types:**

1. Number Series
2. Alphabet Series
3. Letter Series

**1. Number Series:**

There are many types of no Series

(i) **Arithmetic Series:** An Arithmetic Series is one in which successive numbers are obtained by adding (or Subtracting) a fixed number to the previous number.

e.g. (i) 5, 7, 9, 11, 13, 15 (adding 2 to the previous number)

(ii) 3, 6, 9, 12, 15 ..... (adding 3 to the previous number).

(ii) **Geometric Series:** Series in which each successive number is obtained by multiplying or dividing a fixed number by the previous number.

e.g. (i) 2, 4, 8, 16, 32 (multiply 2 to the previous number).

(ii) 15, -30, 60, -120, 240 ..... (multiply by -2 to the previous number).

(iii) **Series of Squares, Cubes etc.:**

The series can be formed by squaring or cubing every successive number.

e.g. (i) 1, 2, 4, 16, 256 .....

(ii) 2, 8, 5, 12 .....

(iv) **Two-tier Arithmetic Series:** In this series the difference of successive numbers themselves form an arithmetic series.

e.g. (i) 1, 2, 5, 10, 17, 26 .....

(The difference of successive numbers is 1, 3, 5, 7, 9, 11 ..... which is an arithmetic series).

**Note:** Two-tier arithmetic series can be denoted as a quadratic function 1, 2, 5, 10, 17, 26 can be denoted as

$$0^2 + 1, 1^2 + 1, 2^2 + 1, 3^2 + 1, 4^2 + 1, 5^2 + 1$$

$$f(x) = x^2 + 1$$

$$x = 0, 1, 2, 3 \dots\dots\dots$$

(v) **Three-tier Arithmetic Series:** In this series find successive term differences are then again find successive term differences which give as Arithmetic Series.

e.g. (i) 336, 210, 120, 60, 24, 6, ..... the difference of successive terms are 126, 90, 60, 36, 18, 6 .....

Again find successive differences of this new series

36, 30, 24, 18, 12 ..... which is an arithmetic series.

**Note:** Three-tier arithmetic series can be denoted as a cubic function.

(vi) **Arithmetic-Geometric Series:** In this series each successive term should be found by first adding a fixed no to the previous term and then multiplying it by another fixed number.

e.g. (i) 1, 9, 33, 105, 321, 969 ..... first add 2 to the previous term and then multiply it by 3.

(vii) **Geometric-Arithmetic Series:** In this series each successive term is found by first multiplying or dividing the previous term by a fixed number and then adding or subtracting another fixed number.

e.g. (i) 3, 9, 21, 45, 93, 189 ..... (multiply the previous number by 2 and then adding another fixed number that is 3)

2. **Alphabet Series:**

The English alphabet contains 26 letters as given below:

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

First Alphabetical half A to M ⇒ 1 to 13

Second Alphabetical half N to Z ⇒ 14 to 26

The series (Alphabet order)

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

3. **Letter Series:**

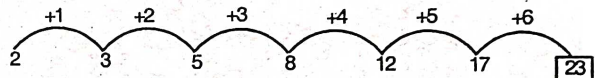
The letter of series will be such that each one follows its predecessor in a certain way, (according to a definite pattern). Students are required to find out the missing letters to complete the series.

This type of question usually follows a series of small letters.

**PRACTICE QUESTIONS OF MCQ**

Q1. 2, 3, 5, 8, 12, 17 \_\_\_\_\_.

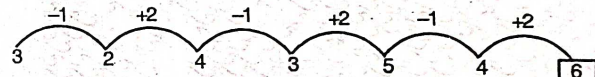
Answer:



[23]

Q2. 3, 2, 4, 3, 5, 4 \_\_\_\_\_.

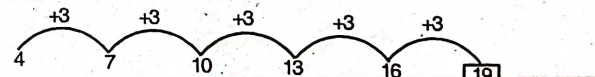
Answer:



[6]

Q3. 4, 7, 10, 13, 16 \_\_\_\_\_.

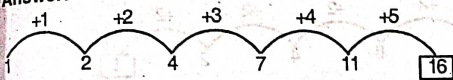
Answer:



[19]

Q4. 1, 2, 4, 7, 11 \_\_\_\_\_

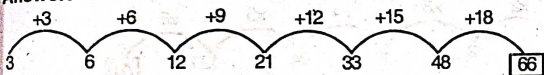
Answer:



16

Q5. 3, 6, 12, 21, 33, 48 \_\_\_\_\_

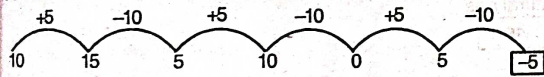
Answer:



66

Q6. 10, 15, 5, 10, 0, 5 \_\_\_\_\_

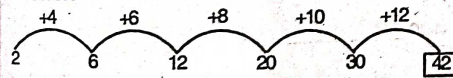
Answer:



-5

Q7. 2, 6, 12, 20, 30 \_\_\_\_\_

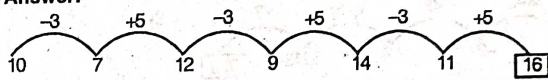
Answer:



42

Q8. 10, 7, 12, 9, 14, 11 \_\_\_\_\_

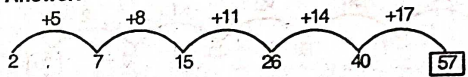
Answer:



16

Q9. 2, 7, 15, 26, 40 \_\_\_\_\_

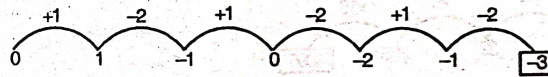
Answer:



57

Q10. 0, 1, -1, 0, -2, -1 \_\_\_\_\_

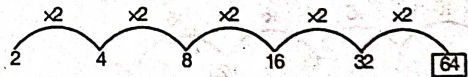
Answer:



-3

Q11. 2, 4, 8, 16, 32 \_\_\_\_\_

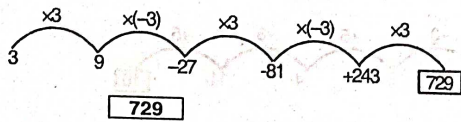
Answer:



64

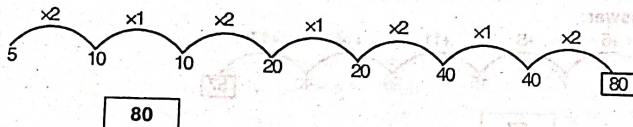
Q12. 3, 9, -27, -81, +243 \_\_\_\_\_

Answer:



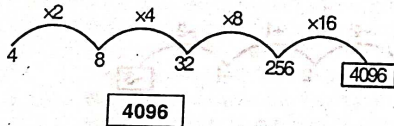
Q13. 5, 10, 10, 20, 20, 40, 40 \_\_\_\_\_

Answer:



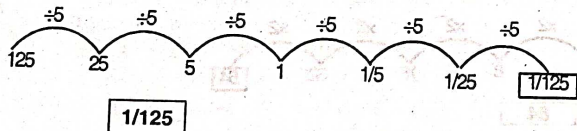
Q14. 4, 8, 32, 256 \_\_\_\_\_

Answer:



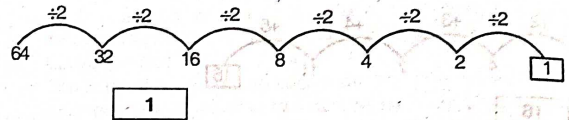
Q15. 125, 25, 5, 1, 1/5, 1/25 \_\_\_\_\_

Answer:



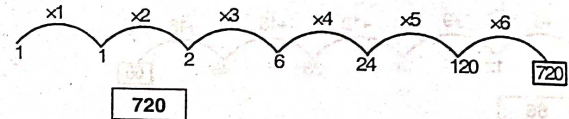
Q16. 64, 32, 16, 8, 4, 2 \_\_\_\_\_

Answer:



Q17. 1, 1, 2, 6, 24, 120 \_\_\_\_\_

Answer:



Q18. 1, 4, 9, 16, 25, 36 \_\_\_\_\_

Answer:

Square of natural nos.

49

Q19. 0, 1, 8, 27, 64 \_\_\_\_\_

Answer:

Cube of whole nos.

125

Q20. 4, 16, 36, 64, 100 \_\_\_\_\_

Answer:

Square of even natural no.

144

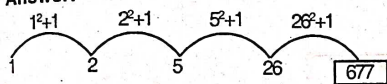
Q21. 1, 9, 25, 49, 81 \_\_\_\_\_

Answer:  
Square of odd natural no.

121

Q22. 1, 2, 5, 26 \_\_\_\_\_

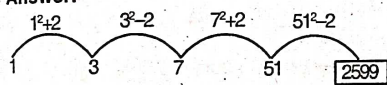
Answer:



677

Q23. 1, 3, 7, 51 \_\_\_\_\_

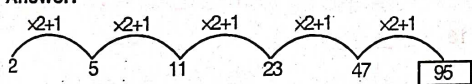
Answer:



2599

Q24. 2, 5, 11, 23, 47 \_\_\_\_\_

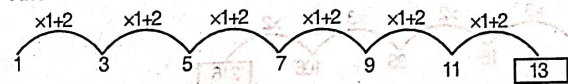
Answer:



95

Q25. 1, 3, 5, 7, 9, 11 \_\_\_\_\_

Answer:



13

Q26. 1, 6, 21, 66, 201 \_\_\_\_\_

Answer:

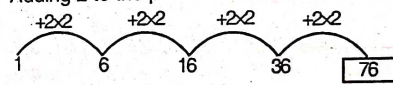
Adding 1 to the previous term and multiply by 3

606

Q27. 1, 6, 16, 36 \_\_\_\_\_

Answer:

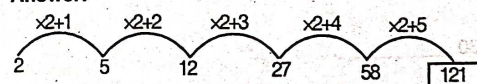
Adding 2 to the previous term and multiply by 2



76

Q28. 2, 5, 12, 27, 58 \_\_\_\_\_

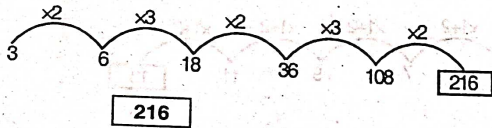
Answer:



121

Q29. 3, 6, 18, 36, 108 \_\_\_\_\_

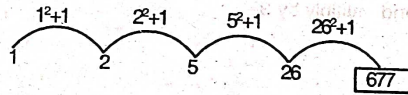
Answer:



216

Q30. 1, 2, 5, 26 \_\_\_\_\_

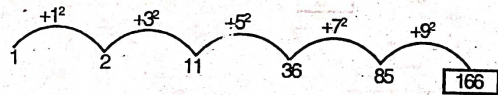
Answer:



677

Q31. 1, 2, 11, 36, 85 \_\_\_\_\_

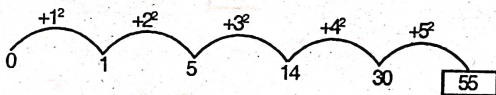
Answer:



166

Q32. 0, 1, 5, 14, 30 \_\_\_\_\_

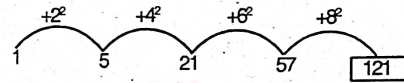
Answer:



55

Q33. 1, 5, 21, 57 \_\_\_\_\_

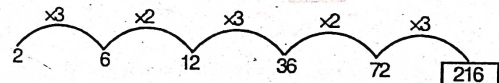
Answer:



121

Q34. 2, 6, 12, 36, 72 \_\_\_\_\_

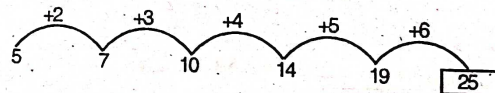
Answer:



216

Q35. 5, 7, 10, 14, 19 \_\_\_\_\_

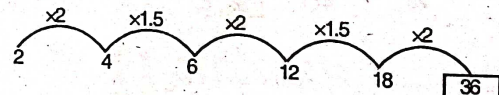
Answer:



25

Q36. 2, 4, 6, 12, 18 \_\_\_\_\_

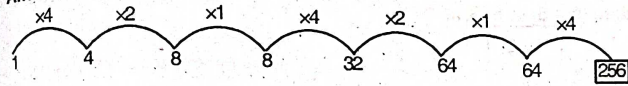
Answer:



36

Q37. 1, 4, 8, 8, 32, 64, 64 \_\_\_\_\_

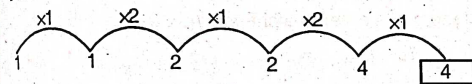
Answer:



256

Q38. 1, 1, 2, 2, 4 \_\_\_\_\_

Answer:



4

Q39. 3, 4, 7, 16, 43 \_\_\_\_\_

Answer:

(First multiply by 3 (previous term) and then subtract 5)

124

Q40. 3, 8, 18, 38 \_\_\_\_\_

Answer:

First previous term multiply by 2 and then add 2

78

Q41. 1, 2, 5, 10, 17, 26 \_\_\_\_\_

Answer:

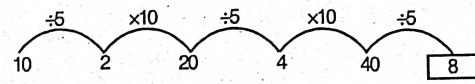
Follow the previous

$0^2+1$   $1^2+1$   $2^2+1$   $3^2+1$  \_\_\_\_\_

37

Q42. 10, 2, 20, 4, 40 \_\_\_\_\_

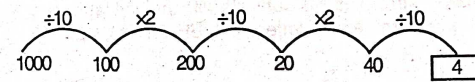
Answer:



8

Q43. 1000, 100, 200, 20, 40 \_\_\_\_\_

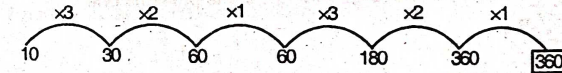
Answer:



4

Q44. 10, 30, 60, 60, 180, 360 \_\_\_\_\_

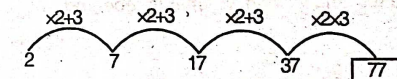
Answer:



360

Q45. 2, 7, 17, 37 \_\_\_\_\_

Answer:



77

Q46. 1, 2, 6, 15 \_\_\_\_\_

Answer:

$$1=0^2, 1^2+1^2, 1+1^2+2^2, 1+1^2+2^2+3^2$$

$$1+1^2+2^2+3^2+4^2$$

31

Q47. SCD, TEF, UGH \_\_\_\_\_ WKL

- (a) CNM (b) VJI  
(c) VIJ (d) IJT

Answer:

There are two identical series here. The first series is with the first letter only. The second series involves the remaining letters CD, EF, GH, IJ, KL.

VIJ

Q48. C<sub>3</sub>DE, CD<sub>4</sub>E, CDE<sub>5</sub> \_\_\_\_\_ CD<sub>7</sub>E.

- (a) CDE (b) CDE<sub>5</sub>  
(c) C<sub>2</sub>DE (d) CDE<sub>4</sub>

Answer:

Letters are same change number only adding 1 in the previous one.

C<sub>5</sub>DE

Q49. CMM, EOO, GQQ \_\_\_\_\_ KUU.

- (a) GRR (b) GSS  
(c) ISS (d) ITT

Answer:

The first letter will be in order CEGIK, and 2<sup>nd</sup> and 3<sup>rd</sup> letter is repeated.

ISS

Q50. ZA<sub>5</sub>, Y<sub>4</sub>B, XC<sub>6</sub>, W<sub>3</sub>D \_\_\_\_\_

- (a) E<sub>3</sub>V (b) U<sub>2</sub>E  
(c) VE<sub>5</sub> (d) VE<sub>7</sub>

Answer:

The 1<sup>st</sup> letter are alphabetically reverse, 2<sup>nd</sup> letter are in alphabetic order and numbers are 5, 4, 6, 3, 7.

VE<sub>7</sub>

Q51. QPO, NML, KJI, HGF \_\_\_\_\_

- (a) EDC (b) HGE  
(c) CAB (d) GHI

Answer:

This series consists of letters in a reverse alphabetic order.

EDC

Q52. AOU, BPV, CQW, DRX \_\_\_\_\_

- (a) ESY (b) JAK  
(c) PFQ (d) MEN

Answer:

Follow an alphabetic order.

ESY

Q53. 1AZ, 2BY, 3CX, 4DW \_\_\_\_\_

- (a) 5EV (b) 6EU  
(c) 7AE (d) 5FO

5EV

Q54. BCB, DED, FGF, HIH \_\_\_\_\_

- (a) HJH (b) JKJ  
(c) KJK (d) HKH

Answer:

Follow an simple alphabetic order.

JKJ



Q55. A5A, C10C, E15E, G20G \_\_\_\_\_  
(a) I25I (b) I20I  
(c) J25J (d) K20K

Answer:  
Follow an simple alphabetic order.

I25I

Q56. QAR, RAS, SAT, TAU \_\_\_\_\_  
(a) UAV (b) UAT  
(c) TAS (d) TAT

Answer:  
In this 3<sup>rd</sup> letter will be the first letter in next and 3<sup>rd</sup> letter is in order.

UAV

Q57. AZ, BY, CX, DW \_\_\_\_\_  
(a) EV (b) FV  
(c) VF (d) DV

Answer:  
Simple forward and Backward steps.

EV

Q58. AZ, CX, FU \_\_\_\_\_  
(a) BC (b) JQ  
(c) KP (d) PW

Answer:  
First letter move forward by first, second, third \_\_\_\_\_ terms. Second letter move backwards.

JQ

Q59. AZ, GT, MN \_\_\_\_\_ YB.  
(a) KF (b) XR  
(c) HS (d) SH

Answer:  
Moved forward and backward by six steps.

SH

Q60. CE, GI, KM, OQ \_\_\_\_\_  
(a) TW (b) TV  
(c) TU (d) SU

Answer:  
Letters of each term is alternate.

SU

Q61. D2E, H4J, L6O, P8T \_\_\_\_\_  
(a) T10Y (b) U5V  
(c) L7O (d) X10Y

Answer:  
First letter place is multiple of 4 while 3<sup>rd</sup> letter is multiple of 5.

T10Y

Q62. CAT, FDW, IGZ \_\_\_\_\_  
(a) KJA (b) TUV  
(c) HDC (d) LJC

Answer:  
All the letters of each terms moved three steps forward to obtain the corresponding letters.

LJC

Q63. BEH, KNC, TWZ \_\_\_\_\_  
(a) IJL (b) IFC  
(c) CFI (d) RBI

Answer:  
Each letter moved a steps forward.  
**CFI**

Q64. FLP, INS, LPV \_\_\_\_\_  
(a) ORY (b) UXZ  
(c) VXY (d) SVW

Answer:  
1<sup>st</sup> and 3<sup>rd</sup> letter moved 3 steps which 2<sup>nd</sup> letter moved 2 steps.  
**ORY**

Q65. LXF, MTJ, NPN, OLR \_\_\_\_\_  
(a) HAV (b) PHV  
(c) PIU (d) PKX

Answer:  
1<sup>st</sup> letter moved one step forward 2<sup>nd</sup> letter moved 4 step backward 3<sup>rd</sup> letter moved 4 step forward.  
**PHV**

Q66. AB, BA, ABC, CBA, ABCD \_\_\_\_\_  
(a) DCBA (b) DCAB  
(c) ABDC (d) BACD

Answer:  
Inverse in next step.  
**DCBA**

**Q67. Coding and De-coding**

Some words are stand for some another words which is known code of the word. Process of replacing some words by code word is known as coding. Decoding is reverse of coding.

The coding and Decoding is classified mainly into two types.

- 1. Letter coding
- 2. Numeric coding.

**Letter Coding:**

In this case Alphabets replaced by certain other Alphabets According to specific rule.

**Numeric Coding:**

In this case numeric values or letters can be changed according to specific rule.

Q68. MADRAS is coded as NBESBT, how is BOMBAY coded in that code?

Answer:  
Each letter moved one step forward.  
**CPNCBZ**

Q69. In a certain code, TRIPPLE is written as SQHOOKD. How is DISPOSE written in that code?

Answer:  
Moved one step backward  
**CHRONRD**

Q70. In a certain code, MONKEY is written as XDJMNL. How TIGER can be coded?

Answer:  
First write the letter of the word in reverse order and then moved one step backward.  
**QDFHS**

Q71. If DELHI is coded as 73541 and CALCUTTA as 82589662, then CALCUT be coded?

Answer:

∴ Coding as follows	D	E	L	H	I	C	A	U	T
	7	3	5	4	1	8	2	9	6

8251896

Q72. TWENTY is written as 863985 and ELEVEN is written as 323039, then TWELVE can be coded.

Answer:

∴ Coding as follows

T	W	E	N	Y	L	V
8	6	3	9	5	2	0

863203

Q73. In a system 15789 is coded as EGKPT and 2346 is coded as ALUR. How 23549 can be coded?

Answer:

Coding pattern is

1	5	7	8	9	2	3	4	6
E	G	K	P	T	A	L	U	R

ALGUT

Q74. How 184632 can be coded.

7	2	1	5	3	9	8	6	4
W	L	M	S	E	N	D	J	B

Answer:

MDBJEL

Q75. How 879341 can be coded.

7	2	1	5	3	9	8	6	4
W	L	M	S	E	N	D	J	B

Answer:

DWNEBM

Q76. If "isb ito inm" stands for "neat and tidy" "qpr inm sen" stands for "small but neat" "hsm sen rso" stands for "good but erratic" then "but" stands for.

Sen

Q77. In a certain code

"Pit dar na" means "you are good"

"dar tok pa" means "good and bad"

"Tim na tok" means "They are bad"

then "they" stands for

Answer:

Tim

Q78. In a coding

"37" means "which class"

"583" means "caste and class"

what is the code for caste

Answer:

either 5 or 8

Q79. In a coding

"743" means "mangoes are good"

"657" means "eat good food"

"934" means "mangoes are ripe"

then "ripe" can be coded as

Answer:

9

**Q80.** In a coding  
 "256" means "you are good"  
 "637" means "we are bad"  
 "358" means "good and bad"  
 then "and" is coded as

**Answer:**

8

**Q81.** What will be the coding for 649281

7	2	1	5	3	9	8	6	4
W	L	M	S	I	N	D	J	B

**Answer:**

JBNLDM

**Q82.** What will be the coding for MSINDWB

7	2	1	5	3	9	8	6	4
W	L	M	S	I	N	D	J	B

**Answer:**

1539874

**Q83. Odd man out**

Some thing or some one who differs markedly from the others in a group. These questions are based on words letters and numerals. In these problems we consider the defining quality of particular objects or things.

**Q84.** March May September December

**Answer:**

All are months having 31 days.

September

**Q85.** 25, 81, 144, 100, 90

**Answer:**

All are perfect square

90

**Q86.** 1, 8, 27, 625, 124

**Answer:**

All are cubes

124

**Q87.** 5, 10, 25, 30, 42

**Answer:**

All are multiples of 5

42

**Q88.** 2, 3, 7, 9, 11

**Answer:**

All are prime no.

9

**Q89.** 2, 6, 88, 90, 58, 63

**Answer:**

All are even

63

**Q90.** 10, 19, 18, 16, 24

**Answer:**

All are even

19

Q91. Mithun, D, Sachin, T, A.mitabh, B, Jitendra

Answer:  
all are actors

Sachin T

Q92. P.T. Usha, Sania Mirza, Ganguli, Dharmendra

Answer:  
all are Sports Star.

Dharmendra

Q93. Fish, Starfish, Crocodile, Hen

Answer:  
all are aquatic

Hen

Q94. 2, 3,  $\frac{4}{3}$ ,  $\frac{1}{2}$ ,  $\sqrt{3}$

Answer:  
all are rational nos.

$\sqrt{3}$

Q95. 1, 2, 6, 15, 31, 56, 91

Answer:  
Patter is 1,  $1+1^2=2$   
 $2+2^2=6$      $15+4^2=31$      $56+6^2=92$   
 $6+3^2=15$      $31+5^2=756$

91

Q96. 8, 13, 21, 32, 47, 63, 83

Answer:  
go on adding 5, 8, 11, 14, 17, 20

47

Q97. 22, 33, 66, 77, 121, 279, 594

Answer:  
rest are multiple of 11

279

Q98. 835, 734, 642, 751, 853, 981

Answer:  
Pattern: The difference of third and first digit is the middle one.

751

PAST YEAR QUESTIONS AND ANSWERS

2018 - MAY

[1] In a certain code, RIPPLE is written as 613382 and LIFE is written as 8192. How is PILLER written in that code?

- (a) 318826
- (b) 318286
- (c) 618826
- (d) 338816

(1 mark)

Answer:  
(a)

R	I	P	P	L	E
1	1	1	1	1	1
6	1	3	3	8	2

L	I	F	E
1	1	1	1
8	1	9	2

P	I	L	L	E	R
1	1	1	1	1	1
3	1	8	8	2	6

[2] In a certain code '256' means 'you are good', '637' means 'we are bad' and '358' means 'good and bad'. Which of the following represents 'and' in that code?

- (a) 2 (b) 5  
(c) 8 (d) 3 (1 mark)

Answer:

(c)

(1) 2 5 6 → You Are Good

(2) 6 3 7 → We Are Bad

(3) 3 5 8 → Good And Bad

In the first and second codes, i.e., 256 and 637, we can see that the common digit is 6. Also, if we look at their corresponding phrases, i.e., "You Are Good", and "We Are Bad", we can see that the word "Are" is common. Therefore, 6 is the code for "Are".

Similarly, in the first and third codes, i.e., 256 and 358, we can see that the common digit is 5. Also, if we look at their corresponding phrases, i.e., "You Are Good", and "Good And Bad", we can see that the word "Good" is common. Therefore, 5 is the code for "Good".

Similarly, in the second and third codes, i.e., 637 and 358, we can see that the common digit is 3. Also, if we look at their corresponding phrases, i.e., "We Are Bad", and "Good And Bad", we can see that word "Bad" is common. Therefore, 3 is the code for "Bad".

Now, let's look at the last code along with its corresponding phrase: 358 → Good And Bad

We know that 3 corresponds to "Bad", and 5 corresponds to "Good". Therefore, 8 would correspond to "And".

[3] If LOSE is coded as 1357 and GAIN is coded as 2468, what do figure 82146 for ?

- (a) NGLAI (b) NGLIA  
(c) GNLIA (d) GNLA (1 mark)

Answer:

(a)

L	O	S	E
1	3	5	7

G	A	I	N
2	4	6	8

8	2	1	4	6
N	G	L	A	I

2018 - NOVEMBER

[4] If PLAY is coded as 8123 and RHYME is coded as 49367. What will be code of MALE?

- (a) 6217 (b) 6198  
(c) 6395 (d) 6285 (1 mark)

Answer:

(a)

P	L	A	Y
8	1	2	3

R	H	Y	M	E
4	9	3	6	7

M	A	L	E
6	2	1	7

- [5] Find out the next number in the following series 7, 11, 13, 17, 19, 23, 25, 29?  
 (a) 30 (b) 31  
 (c) 32 (d) 33 (1 mark)  
**Answer:**  
 (b)



- [6] If HONEY is coded as JQPGA, which word is code as VCTIGVU?  
 (a) CARPETS (b) TRAPETS  
 (c) TARGETS (d) UMBRELU (1 mark)  
**Answer:**  
 (c)

	H	O	N	E	Y
+2	I	I	I	I	I
	J	Q	P	G	A

We can see from above that coding is done by adding 2 to each letter of the word. The question asks us the word, for which the code is VCTIGVU. This means we'll have to subtract 2 from each of the letter of the word to decodify it.

	V	C	T	I	G	V	U
-2	I	I	I	I	I	I	I
	T	A	R	G	E	T	S

- [7] Find odd man out of the following series 15, 21, 63, 81, 69  
 (a) 15 (b) 21  
 (c) 63 (d) 81 (1 mark)  
**Answer:**  
 (d) 81 is the only perfect square

- [8] Find odd man out of the following series 7, 9, 13, 17, 19  
 (a) 7 (b) 9  
 (c) 19 (d) 13 (1 mark)  
**Answer:**  
 (b) All the numbers are prime except 9

2019 - JUNE

- [9] Find the next number in the series:  
 7, 23, 47, 119, 167  
 (a) 211  
 (b) 223  
 (c) 287  
 (d) 319 (1 mark)  
**Answer:**  
 (c)  $3^2 - 2 = 7$ ;  $5^2 - 2 = 23$ ;  $7^2 - 2 = 47$ ;  $11^2 - 2 = 119$ ;  $13^2 - 2 = 167$ .  
 Therefore, we can see that every number in the sequence is 2 less than the square of a prime number. The next prime number after 13 is 17. Therefore, the next number in the series will be  $17^2 - 2 = 287$ .
- [10] Which of the following is odd one 4, 12, 44, 176, 890 .....  
 (a) 4  
 (b) 12  
 (c) 44  
 (d) 176 (1 mark)  
**Answer:**  
 (c)  
 $(4 \times 2) + 4 = 12$   
 $(12 \times 3) + 6 = 42$   
 $(42 \times 4) + 8 = 176$   
 $(176 \times 5) + 10 = 890$   
 Therefore, clearly, 44 is the odd one out as it should have been 42.

[11] If in a Certain language, MADRAS is coded as NBESBT, How DELHI is coded in that code?

- (a) EMMJI
- (b) EFMIJ
- (c) EMFIJ
- (d) JIFEM

(1 mark)

Answer:

(b)

M	A	D	R	A	S
+1 ↓	+1 ↓	+1 ↓	+1 ↓	+1 ↓	+1 ↓
N	B	E	S	B	T

Therefore, DELHI would be coded as follows:

D	E	L	H	I
+1 ↓	+1 ↓	+1 ↓	+1 ↓	+1 ↓
E	F	M	I	J

[12] Which of the following is odd one?

- (a) CEHL
- (b) KMPT
- (c) OQTX
- (d) NPSV

(1 mark)

Answer:

- (d) Option (a) → C + 2 = E; E + 3 = H; H + 4 = L
- Option (b) → K + 2 = M; M + 3 = P; P + 4 = T
- Option (c) → O + 2 = Q; Q + 3 = T; T + 4 = X
- Option (d) → N + 2 = P; P + 3 = S; S + 4 = W, but there is V in place of W, so, option (d) is the odd one out.

2019 - NOVEMBER

[13] Complete the series.

4, 16, 36, 64, 100 \_\_\_\_\_

- (a) 144
- (b) 121
- (c) 49
- (d) 120

(1 mark)

Answer:

- (a)  $2^2 = 4$ ;  $4^2 = 16$ ;  $6^2 = 36$ ;  $8^2 = 64$ ;  $10^2 = 100$ . Therefore, we can see that this is series of squares of even numbers; next term would be  $12^2 = 144$ .

[14] In a certain code MADRAS is NBESBT now DELHI is coded as:

- (a) EMMJI
- (b) JIFEM
- (c) EFMIJ
- (d) CDKGGH

(1 mark)

Answer:

(c)

M	A	D	R	A	S
+1 ↓	+1 ↓	+1 ↓	+1 ↓	+1 ↓	+1 ↓
N	B	E	S	B	T

Therefore, DELHI would be coded as follows:

D	E	L	H	I
+1 ↓	+1 ↓	+1 ↓	+1 ↓	+1 ↓
E	F	M	I	J



- [15] Find the odd man out 5, 10, 17, 27, 37:  
 (a) 5  
 (b) 17  
 (c) 27  
 (d) 10 (1 mark)

Answer:

(c) 27 is the only perfect cube.

- [16] Complete the series  
 4, 16 \_\_\_\_\_ 256, 1024  
 (a) 32  
 (b) 48  
 (c) 64  
 (d) 46 (1 mark)

Answer:

(c)  $4 \times 4 = 16$ ;  
 $16 \times 4 = 64$ ;  
 $64 \times 4 = 256$ ;  
 $256 \times 4 = 1,024$

Therefore, the missing number is 64.

- [17] SYSTEM is coded as 131625 then TERMS will be coded as?  
 (a) 62251  
 (b) 62451  
 (c) 64251  
 (d) 62415 (1 mark)

Answer:

(b) We can see that the word "TERMS" has the letter "R", which is not present in "SYSTEM". Therefore, we do not have a code for "R". We would look at the 3<sup>rd</sup> digit in all the options and see if the third digit is there in the code for SYSTEM, or not. We find that the third digit in option (a) is 2, which is present in the code for "SYSTEM". Similarly, the third digit in option (c) is 2, which is present in the code for "SYSTEM". Therefore, options (a) and (c) are out. Now, since the first three digits are the same in option (b) as well in option (d), let's check the fourth letter in TERMS, i.e., M. The code for M is 5. Therefore, option (b) is the answer.

- [18] Find the odd one out: 1, 5, 14, 30, 49, 55, 91  
 (a) 49  
 (b) 30  
 (c) 55  
 (d) 91 (1 mark)

Answer:

(a) The difference between 5 and 1 is 4, which is  $2^2$ ; the difference between 14 and 5 is 9, which is  $3^2$ ; the difference between 30 and 14 is 16, which is  $4^2$ ; therefore, the difference between 49 and 30 should be 25, which is  $5^2$ , but this is not the case. So, 49 is the odd one out.

2020 - NOVEMBER

- [19] Find the missing value in the series 0, 2, 3, 6, 10, 17, 28, ?, 75.  
 (a) 58  
 (b) 46  
 (c) 48  
 (d) 54 (1 mark)

Answer:

(b)  $0 + 2 + 1 = 3$   
 $2 + 3 + 1 = 6$   
 $3 + 6 + 1 = 10$   
 $6 + 10 + 1 = 17$   
 $10 + 17 + 1 = 28$   
 $17 + 28 + 1 = 46$

- [20] Find the missing value in  $\frac{3}{8}, \frac{8}{19}, \frac{18}{41}, ?, \frac{78}{173}$   
 (a)  $\frac{37}{84}$   
 (b)  $\frac{40}{87}$   
 (c)  $\frac{39}{86}$   
 (d)  $\frac{38}{85}$  (1 mark)

**Answer:**

- (d) Numerators are increasing in the order +5, + 10, +20, +40.  
Therefore, the numerator will be  $18 + 20 = 38$   
Denominators are increasing in the order +11, +22, +44, + 88.  
Therefore, the denominator will be  $41 + 44 = 85$

**ODD Man out**

- [21] Which of the following is the odd one: 6, 9, 15, 21, 24, 26, 30.  
(a) 30  
(b) 24  
(c) 26  
(d) 9 (1 mark)

**Answer:**

- (c) All the numbers are multiples of 3 except 26.

**Coding and decoding**

- [22] If health is written as IFBMUL, then how will NORTH be written in that code?  
(a) OPSUL  
(b) GSQNM  
(c) FRPML  
(d) IUPSO (1 mark)

**Answer:**

(a)

H	E	A	L	T	H
+1 ↓	+1 ↓	+1 ↓	+1 ↓	+1 ↓	+4 ↓
I	F	B	M	U	L

Therefore,

N	O	R	T	H
+1 ↓	+1 ↓	+1 ↓	+1 ↓	+4 ↓
O	P	S	U	L

**Coding and Decoding**

- [23] Find the wrong term in:  
G4T, J10R, M20P, P43N, S90L

- (a) M20P  
(b) P43N  
(c) J10R  
(d) G4T (1)

**Answer:**

- (c) Look at the numbers 4, 10, 20, 43, 90  
The pattern of this series is as follows:

$$4$$

$$(4 \times 2) + 1 = 8 + 1 = 9$$

$$(9 \times 2) + 2 = 18 + 2 = 20$$

$$(20 \times 2) + 3 = 40 + 3 = 43$$

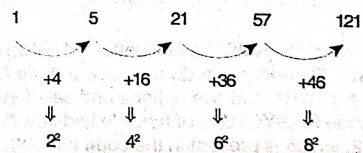
$$(43 \times 2) + 4 = 86 + 4 = 90$$

- [24] Find the next term 1, 5, 21, 57, .....

- (a) 105  
(b) 138  
(c) 121  
(d) 101 (1)

**Answer:**

(c)



[25] Find the next term  $\frac{1}{2}, \frac{3}{4}, \frac{5}{8}, \frac{7}{16}, ?$

- (a) 9/32
- (b) 10/17
- (c) 11/34
- (d) 12/35

Answer:

(a) Numerator →  $1 + 2 = 3; 3 + 2 = 5; 5 + 2 = 7; 7 + 2 = 9$   
 Denominator →  $2 \times 2 = 4; 4 \times 2 = 8; 8 \times 2 = 16; 16 \times 2 = 32$

(1 mark)

[26] Find the missing term: P 3 C, R 5 F, T 8 I, V 12 L, ?

- (a) Y17O
- (b) X17M
- (c) X17O
- (d) X16O

Answer:

(c) First letter →  $P + 2 = R; R + 2 = T; T + 2 = V; V + 2 = X$   
 Number →  $3 + 2 = 5; 5 + 3 = 8; 8 + 4 = 12; 12 + 5 = 17$   
 Third letter →  $C + 3 = F; F + 3 = I; I + 3 = L; L + 3 = O$   
 Therefore, X17O

(1 mark)

[27] Find out the odd man out in the Sequence 8, 25, 64, 125, 216.

- (a) 25
- (b) 64
- (c) 125
- (d) 216

Answer:

(a) The sequence is  $2^3 = 8; 3^3 = 27; 4^3 = 64; 5^3 = 125; 6^3 = 216$   
 In place of 27, we have 25, therefore, 25 is the odd one out.

(1 mark)

[28] In a certain Code Language BEAT is written as YVZG, then what will be Code for MILD?

- (a) ONRW
- (b) NOWR
- (c) ONWR
- (d) NROW

(1 mark)

Answer:

(d)

Backward	26	25	24	23	22	21	20	19	18	17	16	15	14
Forward	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
	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Forward	14	15	16	17	18	19	20	21	22	23	24	25	26
Backward	13	12	11	10	9	8	7	6	5	4	3	2	1

B is the second letter moving forwards, and Y is the second letter moving backwards. Similarly, E is the 5<sup>th</sup> letter moving forwards, V is the 5<sup>th</sup> letter moving backwards. A is the first letter moving forwards, and Z is the first letter moving backwards. T is the 20<sup>th</sup> letter moving forwards, and G is the 20<sup>th</sup> letter moving backwards. Now, we have to code MILD.

M is the 13<sup>th</sup> letter moving forwards, N is the 13<sup>th</sup> letter moving backwards. I is the 9<sup>th</sup> letter moving forwards, R is the 9<sup>th</sup> letter moving backwards. L is the 12<sup>th</sup> letter moving forwards, O is the 12<sup>th</sup> letter moving backwards. D is the 4<sup>th</sup> letter moving forwards, W is the 4<sup>th</sup> letter moving backwards.

Therefore, the code for MILD is NROW.

[29] In a certain code RIPPLE is written as 613382, and LIFE is written as 8192. How will RIFFLE be written in that code?

- (a) 618892
- (b) 689912
- (c) 619982
- (d) 629981

(1 mark)

Answer:

(c)

R	I	P	P	L	E	L	I	F	E
1	1	1	1	1	1	1	1	1	1
6	1	3	3	8	2	8	1	9	2

R	I	F	F	L	E
1	1	1	1	1	1
3	1	9	9	8	2

2021 - JULY

[30] Choose the missing term in the series.

1, 1, 8, 4, 27, \_\_\_\_\_, 64, 16

- (a) 27
- (b) 11
- (c) 9
- (d) 125

(1 mark)

Answer:

(c) The series  $n^3, n^2$

For  $n = 1$ , we have  $1^3 = 1; 1^2 = 1$

For  $n = 2$ , we have  $2^3 = 8; 2^2 = 4$

For  $n = 3$ , we have  $3^3 = 27; 3^2 = 9$

[31] If DELHI is coded as EFMIJ then JAIPUR is coded as \_\_\_\_\_

- (a) JQVSBK
- (b) QVSKBJ
- (c) BJQVSK
- (d) KBJQVS

(1 mark)

Answer:

(d)  $D + 1 = E; E + 1 = F; L + 1 = M; H + 1 = I; I + 1 = J$

Therefore,  $J + 1 = K; A + 1 = B; I + 1 = J; P + 1 = Q; U + 1 = V; R + 1 = S$

[32] If FRAME is coded as 0618011305 then ARISE is coded as \_\_\_\_\_

- (a) 0118091905
- (b) 0119091805
- (c) 0118190905
- (d) 0118091805

(1 mark)

Answer:

(a) F is the 6<sup>th</sup> letter of the English Alphabet, so the code of F is 06, and so on.

Therefore, the code of ARISE will be 01 18 09 19 05

[33] The wrong term in the series 225, 196, 169, 144, 121, 100, 77, 64, is:

- (a) 121
- (b) 77
- (c) 100
- (d) 169

(1 mark)

Answer:

(b) All the numbers are squares of some numbers, but not 77.

[34] If CLOCK is coded as 34235 and TIME as 8679, then MOTEL is coded as:

- (a) 27894
- (b) 72964
- (c) 72894
- (d) 77684

(1 mark)

Answer:

(c)

C	L	O	C	K	T	I	M	E
1	1	1	1	1	1	1	1	1
3	4	2	3	5	8	6	7	9

M	O	T	E	L
1	1	1	1	1
7	2	8	9	4



[40] If in a certain code "THANKS" is written as "SKNTHA" then how is "STUPID" written?

- (a) DIPUTS
- (b) DISPUT
- (c) DIPUST
- (d) D'IPSTU

(1 mark)

Answer:

(d) The code of THANKS is made as follows →  
The last three letters are reversed, and then the first three letters are written as it is.  
Similarly, the code of STUPID would be DIPSTU.

2022 - JUNE

[41] 7, 26, 63, 124, 215, 342 \_\_\_\_\_?

- (a) 511
- (b) 672
- (c) 508
- (d) 556

(1 mark)

Answer:

(a) 7, 26, 63, 124, 215, 342

Here,  $2^3 - 1 = 7$  ,  $6^3 = 216 - 1 = 215$   
 $3^3 - 1 = 26$  ,  $7^3 = 343 - 1 = 342$   
 $4^3 - 1 = 63$  ,  $8^3 = 512 - 1 = 511$   
 $5^3 - 1 = 124$  ,

[42] LOTUS is coded as 14682 and STRANGE is coded as 2690753. How will you code GESTURE

- (a) 5236893
- (b) 5326793
- (c) 5346893
- (d) 5326893

(1 mark)

Answer:

(d)

L	O	T	U	S	S	T	R	A	N	G	E	G	E	S	T	U	R	E
1	4	6	8	2	2	6	9	0	7	5	3	5	3	2	6	8	9	3

[43] 4, 6, 9, 13.5, \_\_\_\_\_, 30.375

- (a) 40.50
- (b) 20.25
- (c) 40.75
- (d) 60.25

(1 mark)

Answer:

(b)

4, 6, 9, 13.5, 20.25, 30.375  
 $\times 1.5$     $\times 1.5$     $\times 1.5$     $\times 1.5$     $\times 1.5$

[44] Code for Word EARTH is 16235 and VENUS is 91784 what is code for SATURN?

- (a) 423827
- (b) 463827
- (c) 463877
- (d) 413827

(1 mark)

Answer:

(b) Here,

E	A	R	T	H	V	E	N	U	S	S	A	T	U	R	N
1	6	2	3	5	9	1	7	8	4	4	6	3	8	2	7

[45] Find out the next term -

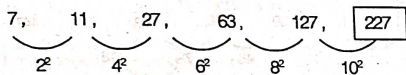
7, 11, 27, 63, 127, \_\_\_\_\_

- (a) 511
- (b) 227
- (c) 5100
- (d) 255

(1 mark)

Answer:

(b)



[46] Find the next terms—

3, 7, 15, 31, ?, 127

- (a) 62
- (b) 63
- (c) 64
- (d) 65

Answer:

(b) 3, 7, 15, 31, 63, 127

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

$$7 \times 2 + 1 = 15$$

$$15 \times 2 + 1 = 31$$

$$31 \times 2 + 1 = 63$$

$$63 \times 2 + 1 = 127$$

(1 mark)

[47] Find out the next term —

6, 13, 28, 59, ?

- (a) 122
- (b) 114
- (c) 113
- (d) 112

Answer:

(a) 6, 13, 28, 59, 122

$$6 \times 2 + 1 = 13$$

$$13 \times 2 + 2 = 28$$

$$28 \times 2 + 3 = 59$$

$$59 \times 2 + 4 = 122$$

(1 mark)

2022 - DECEMBER

[48] If 'FROZEN' is decoded as 'OFAPSG'. Tick the right option that depicts 'MOLTEN' written in this way?

(a) OFPOMN

(b) OFSMPN

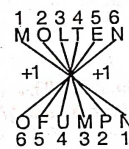
(c) OFUMPN

(d) OFUNPN

(1 mark)

Answer:

(c)



[49] Find the odd man out:

34, 105, 424, 2123, 12756.

- (a) 12756
- (b) 2123
- (c) 424
- (d) 34

(1 mark)

Answer:

(b) Given series 34, 105, 424, 2123, 12756

Here:

$$34 \times 3 + 3 = 105$$

$$105 \times 4 + 4 = 424$$

$$424 \times 5 + 5 = 2125$$

$$2125 \times 6 + 6 = 12756$$

Here, 2123 is odd man out.

[50] Find the missing number in the following series ?

3, 5, 5, 19, 7, 41, 9, ?, 11, 109

- (a) 71
- (b) 69

- (b) 61
- (d) 79

(1 mark)

Answer:  
(a)

3, 5, 5, 19, 7, 41, 9, 71, 11, 109  
           +14   +22   +30   +38

Here,  
 $5 + 14 = 19$   
 $19 + 22 = 41$   
 $41 + 30 = \underline{71}$   
 $71 + 38 = 109$

[51] In certain code language, if TOUR, is written as 1234, CLEAR is written 5678 and SPARE is written as 90847, find the code for CARE?

- (a) 1247
- (b) 4847
- (c) 5247
- (d) 5847

(1 mark)

Answer:  
(d) Given

T	O	U	R	C	L	E	A	R	S	P	A	R	E
1	2	3	4	5	6	7	8	4	9	0	8	4	7

Then  
 C A R E  
 1 1 1 1  
 5 8 4 7

[52] Find the next number in the given sequence?  
 11, 17, 39, 85, ?, 281, 447

- (a) 133
- (b) 143
- (c) 153
- (d) 163

(1 mark)

Answer:

(d) Series

11, 17, 39, 85, 163, 281, 447  
           6    22    46    78    118  
           16    24    32    40

[53] If ROSE 'is coded as 6821, CHAIR is coded as 73456 and PREACH is coded as 961473, what will be the code for SEARCH?

- (a) 246173
- (b) 214673
- (c) 216473
- (d) 214763

(1 mark)

Answer:

(b) Here,

R	O	S	E	C	H	A	I	R	P	R	E	A	C	H
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
6	8	2	1	7	3	4	5	6	<u>9</u>	<u>6</u>	<u>1</u>	<u>4</u>	<u>7</u>	<u>3</u>

Then,  
 S E A R C H  
 ↓ ↓ ↓ ↓ ↓ ↓  
2 1 4 6 7 3