

3.2

CHAPTER

Coding and Decoding

Direction (Qs. 1 to 5): Read the following information carefully and answer the question below it.

- If 'Rat is called Dog', 'Dog is called Mongoose', 'Mongoose' is called Lion, 'Lion is called Snake' and 'Snake is called Elephant', which animal is reared as pet?
(a) Rat (b) Dog
(c) Mongoose (d) Lion
- If Finger is called Toe, Toe is called Foot, Foot is called Thumb, Thumb is called Ankle, Ankle is called Palm and Palm is called Knee, which one finger has different name?
(a) Thumb (b) Ankle
(c) Knee (d) Palm
- In a certain code language, 'kew xas huma deko' means 'she is eating apples', 'kew tepo qua' means 'she sells toys' and 'su lim deko' means 'I like apples'. Which word in that language means she and apples?
(a) xas & deko (b) xas & kew
(c) kew & deko (d) kew & xas
- If 'gnr tag zog qmp' stands for 'Seoul Olympic Organising Committee', 'hydo gnr emf' stands for 'Summer Olympic Games' and 'esm sdr hyto' stands for 'Modern Games History', which would be the code for Summer?
(a) hyto (b) gnr
(c) emf (d) zog
- In a certain code language, 'Pat Zoo Sim' means 'Eat Good Mangoes', 'Pus Sim Tim' means 'Mangoes and Sweets's and 'Tim Zoo Kit' means 'Purchase Good sweets', which word in the language means Good?
(a) Zoo (b) Pus
(c) Sim (d) Tim

Direction (Qs. 6 to 10): Read the following information carefully and answer the question below.

Δ means 'is greater than', $\%$ means 'is lesser than', $\square$ means 'is equal to', $=$ means 'is not equal to', $+$ means 'is a little more than', $\times$ means 'is a little less than'.

- If $a \Delta b$ and $b + c$, then
(a) $a \% c$ (b) $c \% a$
(c) $c + a$ (d) can't say
- If $c = a$ and $a = b$, then
(a) $b \Delta a$ (b) $c \square a$
(c) $b = a$ (d) can't say
- If $a \times b$ and $b \square c$, then
(a) $c + a$ (b) $b \Delta c$
(c) $a + c$ (d) $c \square a$
- If $c \% b$ and $b \times a$, then
(a) $a \Delta c$ (b) $c \square a$
(c) $b \Delta c$ (d) $c \Delta a$
- If $ac + bc$ then
(a) $a \square c$ (b) $b \Delta c$
(c) $c \Delta b$ (d) $b \% a$

Direction (Qs. 11 to 15): Read the following information carefully and answer the question below it.

If $>$ denotes $+$, $<$ denotes $-$, $+$ denotes $\div$, $\wedge$ denotes $\times$, $-$ denotes $=$, $\times$ denotes $>$ and $=$ denotes $<$, choose the correct statement in each of the following questions.

- (a) $6 + 3 > 1 = 4 + 2 < 1$
(b) $4 > 6 + 2 \times 32 + 4 < 1$
(c) $8 < 4 + 2 = 6 > 3$
(d) $14 + 7 > 3 = 6 + 3 > 2$
- (a) $14 > 18 + 9 = 16 + 4 < 1$
(b) $4 > 3 \wedge 8 < 1 - 6 + 2 > 24$
(c) $3 < 6 \wedge 4 > 25 = 8 + 4 > 1$
(d) $12 > 9 + 3 < 6 \times 25 + 5 > 6$

13. (a) $13 > 7 < 6 + 2 = 3 \wedge 4$
 (b) $9 > 5 > 4 - 18 + 9 > 16$
 (c) $9 < 3 < 2 > 1 \times 8 \wedge 2$
 (d) $28 + 4 \wedge 2 = 6 \wedge 4 + 2$

14. (a) $29 < 18 + 6 = 36 + 6 \wedge 4$
 (b) $18 > 12 + 4 \times 7 > 8 \wedge 2$
 (c) $32 > 6 + 2 = 6 < 7 \wedge 2$
 (d) $31 > 1 < 2 = 4 > 6 \wedge 7$

15. (a) $7 > 7 < 7 + 7 = 14$
 (b) $7 \wedge 7 > 7 + 7 = 7 \wedge 7 > 1$
 (c) $7 < 7 + 7 = 6$
 (d) $7 + 7 > 7 = 8$

Direction (Qs. 16 to 18): Read the following information carefully and answer the question below it.

In a certain code, 'il be pee' means 'roses are blue'; 'silk hee' means 'red flowers' and 'pee mit hee' means 'flowers are vegetables'.

16. How is 'red' written in that code?
 (a) hee (b) silk
 (c) be (d) none of these
17. How is 'roses' written in that code?
 (a) il
 (b) pee
 (c) be
 (d) can not be determined
18. How is 'vegetables are red flowers' written in this code?
 (a) pee silk mit hee
 (b) silk pee hee be
 (c) il silk mit hee
 (d) can not be determined

Direction (Qs. 19 to 22): Read the following information carefully and answer the question below it.

Shamita is very fond of collecting greeting cards. Her collection of 211 cards has a good mix of Birthday cards, New year cards, Deepawali cards, Christmas cards and even a Marriage Anniversary card. The number of Birthday cards is equal to the sum of all other except the Marriage Anniversary card. The number of New Year card is double of Deepawali cards which in turn is double of Christmas cards.

19. The number of Birthday cards in the collection is
 (a) 95 (b) 105
 (c) 110 (d) 85

20. The number of Deepawali cards is
 (a) 25 (b) 30
 (c) 35 (d) 40

21. The number of Christmas cards is
 (a) 10 (b) 15
 (c) 20 (d) 25

22. The ratio of Birthday cards to Christmas cards is
 (a) 7 : 1 (b) 4 : 1
 (c) 2 : 1 (d) 1 : 1

Direction (Qs. 23 to 28): Read the following information carefully and answer the question below it.

Rahul's roll number in IES Exam is a number consisting of three non-zero distinct digits, such that the sum of the digits at hundred's and unit's place is equal to that half of the digit at ten's place. Also the sum of all possible three digit numbers obtained using these three digits without repetition is 2664.

23. The digits in the unit is
 (a) 2 (b) 1
 (c) 3 (d) can't say
24. The digits in the tens place is
 (a) 6 (b) 8
 (c) 9 (d) 2
25. The digit in the hundreds place is
 (a) 3 (b) 6
 (c) 9 (d) can't say
26. The sum of the three digits is
 (a) 7 (b) 12
 (c) 10 (d) 14
27. The three digit number is
 (a) 138 (b) 183
 (c) 381 (d) can't say
28. The three digit is number is always divisible by :
 (a) 3 (b) 18
 (c) 29 (d) None of these

Direction (Qs. 29 to 30): Read the following information carefully and answer the question below it

P, Q, R, S, T, U and V are seven positive integers and $(P \times Q \times R \times S \times T \times U \times V)$ is odd.

29. Maximum how many of these integers can be odd?
 (a) 4 (b) 5
 (c) 6 (d) 7

30. Minimum how many of these integers can be even?

- (a) 3 (b) 2
(c) 4 (d) 0

31. In the sequence of alphabets, which letter would be eight to the right of the letter which is sixteenth from the left ?

- (a) G (b) Y
(c) Z (d) X

32. CEGJLN ____ XZB. The missing group of letters in the series are ...

- (a) QSU (b) NPH
(c) PRT (d) TUX

Direction (Qs. 33 to 37): Read the following information carefully and answer the question below it.

In each of the Letter Analogy various terms of a letter series are given with one term missing as shown by (?). Choose the missing term out of the given alternatives.

33. HUA GTZ FSY ERX ?

- (a) DWQ (b) DQW
(c) WDQ (d) WQD

34. DF GJ KM NQ RT ?

- (a) UW (b) YZ
(c) XZ (d) UX

35. DCXW FEVU HGTS ?

- (a) LKPQ (b) ABZ
(c) JIRQ (d) LMRS

36. AB DEF HIJK ? STUVWX

- (a) MNOPQ (b) LMNOP
(c) LMNO (d) QRSTU

37. C G L R ?

- (a) Y (b) S
(c) U (d) Z

Solutions

Answer 1 to 5:

- (c) 'Dog' is reared as pet. But 'Dog' is called 'Mongoose'. So, a 'Mongoose' is reared as pet.
- (b) The 'Thumb' is a finger having a different name. But 'Thumb' is called 'Ankle'. So, 'Ankle' is the finger that has a different name.
- (c) In the 1st and 2nd statements, the common code word is kew and the common word is she. So, kew means she. In the 1st and 3rd statements, the common code is deko and the common word is apples. So, deko means apples.

4. (c) In the first and second statements, the common code word is gnr and the common word is Olympic. So, gnr means Olympic. In the second and third statements, the common code is hyto and the common word is games. So, hyto means games. Thus, in the second statement, emf means summer.

5. (a) From 1st and 3rd statements. Zoo means Good.

Answer 6 to 10:

- (b) $a \Delta b$ and $b + c \Rightarrow a > b$
and b is a little more than c
 $\Rightarrow a > c$
 $\Rightarrow c < a$
i.e. $c \% a$.
- (c) $c = a$ and $a = b \Rightarrow c \neq a$ and $a \neq b$
 $\Rightarrow b \neq a$ i.e. $b = a$.
- (a) $a \times b$ and $b \square c \Rightarrow a$ is a little less than b and b = c.
 $\Rightarrow a$ is a little less than c.
 $\Rightarrow c$ is a little more than a i.e. $c + a$.
- (a) $c \% b \Rightarrow c < b$
and $b \times a \Rightarrow b$ is a little less than a.
 $\Rightarrow c < a \Rightarrow a > c$ i.e. $a \Delta c$.
- (d) $ac + bc \Rightarrow ac > bc \Rightarrow a > b \Rightarrow b < a$ i.e. $b \% a$.

Answer 11 to 15 :

- (c) Using the proper notations in (3), we get the statements as $8 - 4 + 2 < 6 + 3$ or $6 < 9$, which is true.
- (b) Using the proper notations in (2), we get the statements as $4 + 3 \times 8 - 1 = 6 \div 2 + 24$ or $27 = 27$.
- (b) Using the proper notations in (2), we get the statements as $9 + 5 + 4 = 18 + 9 + 16$ or $18 = 18$.
- (d) Using the proper notations in (4), we get the statements as $31 + 1 - 2 < 4 + 6 \times 7$ or $30 < 46$.
- (a) Using the proper notations in (1), we get the statements as $7 + 7 - 7 \div 7 < 14$ or $13 < 14$.

Answer 16 to 18:

- (b) In the second and third statements, the common code word is 'hee' and the common word is 'flowers'. So, 'hee' stands for 'flowers'. Thus, in the second statement, 'silk' stands for 'red'.

17. (d) Since from the given information, we can only find the code for 'are' in the first statement, it cannot be determined which of the remaining two codes for 'roses'.

18. (a) Clearly, the required code will consist of the same codes as in the third statements with the code for 'red' i.e. silk added to it.

Answer 19 to 22:

If, number of Christmas cards = x

Then, number of Deepawali cards = $2x$

Number of New Year cards = $4x$

and number of Birthday cards

$$= x + 2x + 4x$$

$$= 7x$$

$$\text{i.e. } 7x + (x + 2x + 4x) + 1 = 211$$

$$14x = 210$$

$$x = 15$$

Thus, number of Birthday cards

$$= 15 \times 7$$

$$= 105$$

Number of New Year cards

$$= 15 \times 4$$

$$= 60$$

Number of Deepawali cards

$$= 15 \times 2$$

$$= 30$$

Number of Christmas cards

$$= 15 \times 1$$

$$= 15$$

Number of Marriage Anniversary card

$$= 1$$

$$\text{Total} = 211$$

19. (b)

20. (b)

21. (b)

22. (a) $105 : 15 = 7 : 1$.

Answer 23 to 28:

Let the digits be x, y, z such that the number is $100x + 10y + z$

Thus, the other five 3 digit number which we may obtained using these 3 digits will be

$$100x + 10z + y$$

$$100y + 10x + z$$

$$100y + 10z + x$$

$$100z + 10x + y$$

$$100z + 10y + x$$

Now when we add all the six three digit numbers possible to be formed by these three digits:

$$222(x + y + z) = 2664 \text{ or } x + y + z = 12$$

$$\text{Also } x + z = y/2 \text{ thus } y = 8$$

$$\text{Thus, } x + z = 4$$

As the digits are non zero and distinct thus x and z have to be 1 and 3 but not necessarily in the same order. Thus we cannot say whether the number is 183 or 381.

23. (d)

24. (b)

25. (d)

26. (b)

27. (d)

28. (a)

Answer 29 to 32:

29. (d) All integer should be odd to get odd result.

30. (d) None of the integer should be even.

31. (d)

32. (a)

Answer 33 to 37:

33. (b) All the letters of each term are moved one step backward to obtain the corresponding letters of the next term.

34. (d) There is a gap of one letter between both the letters of first term, a gap of two letters between both the letters of second term and again a gap of one and two letters between the letters of third and fourth terms respectively. Besides, the last letter of each term and the first letter of next term are in alphabetical.

35. (c) First two letters of each term are in reverse order. Similarly third and fourth letters are also in reverse order. Besides, the second letter of each term is the letter next to the first letter of the proceeding term.

36. (a) The number of letters in the term goes on increasing by 1 at each step. Each term consists of letters in alphabetical. The last letter of each term and the first letter of the next term are alternate.

37. (a) There is a gap of three letters between the first and the second term, four letters between the second and the third term; and five letters between the third and the fourth term. So, there should be a gap of six letters between the fourth term and the missing term.

