

28. To find the answer to the above question, which of the given statements is not necessary ?
 (a) A (b) B (c) C (d) D (e) None of these
29. In a certain code language, 'nee muk pic' means 'grave and concern'; 'ill dic so' means 'every body else'; and 'tur muk so' means 'body and soul'. Which of the following would mean 'every concern' ?
 (Bank P.O. 1995)
 (a) dic pic (b) ill nee (c) pic nee
 (d) Can't be determined (e) None of these
30. In a certain code language, 'Ka Bi Pu Ya' means 'You are very intelligent'; 'Ya Lo Ka Wo' means 'They seem very intelligent'; 'La Pu Le' means 'You can see' and 'Sun Pun Yun Ya' means 'How intelligent she is'. In that language, which of the following words means 'are' ?
 (a) Ka (b) Bi (c) Le (d) Pu (e) Ya
31. If in a certain code, 'bir le nac' means 'green and tasty'; 'pic nac hor' means 'tomato is green' and 'coc bir hor' means 'food is tasty'. Which of the following means 'tomato is tasty' in that code ?
 (a) bir le hor (b) pic hor nac (c) hor bir pic (d) None of these
32. In a certain code language, 'kew xas huma deko' means 'she is eating apples'; 'kew tepo qua' means 'she sells toys' and 'sul 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 (e) deko & tepo
33. If 'cinto baoli tsi nzro' means 'her village is Sarurpur'; 'mhi cinto keepi tsi oind' means 'her first love is literature' and 'oind geit tsi cinto pki' means 'literature collection is her hobby', which word would mean 'literature' ?
 (a) cinto (b) baoli (c) oind (d) geit

Questions 34 to 36

(Bank P.O. 1998)

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

34. How is 'red' written in that code ?
 (a) hee (b) sik (c) be (d) Cannot be determined (e) None of these
35. How is 'roses' written in that code ?
 (a) il (b) pee (c) be (d) Cannot be determined (e) None of these
36. How is 'vegetables are red flowers' written in this code ?
 (a) pee sik mit hee (b) sik pee hee be (c) il sik mit hee
 (d) Cannot be determined (e) None of these

ANSWERS

1. (c) : In the second and third statements, the common code word is 'sen' and the common word is 'but'. So, 'sen' means 'but'.
2. (e) : In the first and second statements, the common code words 'nee' and 'see' mean 'are' and 'you'. So, in the second statement, the remaining code 'ble' means 'where'.
3. (b) : In the first and second statements, the common code word is 'mot' and the common word is 'is'. So, 'mot' means 'is'.
- In the second and third statements, the common code word is 'baq' and the common word is 'dancing'. So, 'baq' means 'dancing'.
- Thus, in the second statement, 'min' means 'good'.

4. (c) : In the first and second statements, the common code word is 'rps' and the common word is 'morning'. So, 'rps' means 'morning'.
In the first and third statements, common code is 'ski' and the common word is 'nice'. So, 'ski' means 'nice'.
Thus, in the first statement, 'tri' means 'Sunday'.
5. (a) : In the first and second statements, the common code word is 'nie' and the common word is 'some'. So, 'nie' means 'some'.
In the first and third statements, the common code word is 'pie' and the common word is 'good'. So, 'pie' means 'good'.
Thus, in the first statement, 'bi' means 'jokes'.
6. (a) : In the first and second statements, the common code word is 'nat' and the common word is 'harmful'. So, 'nat' stands for 'harmful'.
In the second and third statements, the common code word is 'dor' and the common word is 'avoid'. So, 'dor' stands for 'avoid'.
Thus, in the second statement, 'vog' means 'habit'.
7. (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'.
8. (d) : In the first and third statements, the common code word is 'peru' and the common word is 'fine'. So, 'peru' means 'fine'.
In the second and third statements, the common code word is 'lisa' and the common word is 'clear'. So, 'lisa' means 'clear'.
Thus, in the third statement, 'dona' means 'weather'.
9. (d) : In the first and second statements, the common code word is 'dan' and the common word is 'house'. So, 'dan' stands for 'house'.
In the second and third statements, the common code word is 'fit'. So, 'fit' stands for 'is'.
Thus, in the second statement, 'kon' stands for 'good'.
10. (c) : In the second and third statements, the common code words are 'Pe', 'Mink' and 'May' and the common words are 'are', 'not' and 'ripe'.
So, in the third statement, 'Nue' stands for 'mangoes'.
11. (a) : In the first and second statements, the common code word is 'Kun' and the common word is 'Dogs'. So, 'Kun' means 'Dogs'.
In the first and third statements, the common code word is 'Tom' and the common word is 'are'. So, 'Tom' means 'are'.
Thus, in the first statement, 'Sud' means 'barking'.
12. (a) : In the first and third statements, the common code word is 'fin' and the common word is 'fruit'. So, 'fin' stands for 'fruit'.
In the second and third statements, the common code word is 'sig' and the common word is 'lily'. So, 'sig' stands for 'lily'.
Thus, in the third statement, 'lon' means 'and'.
13. (a) : In the first and second statements, the common code word is 'tingo' and the common word is 'flower'. So, 'tingo' stands for 'flower'.
In the second and third statements, the common code word is 'mst' and the common word is 'sweet'. So, 'mst' stands for 'sweet'.
Thus, in the second statement, 'rho' stands for 'fragrance'.
14. (d) : We can find the code for 'food' from the first and second statements. Now, to find the code for 'hot', we need the code for 'bring' which cannot be determined from the given information.

15. (b) : In the first and second statements, the common code word is 'nro' and the common word is 'down'. So, 'nro' means 'down'.
In the second and third statements, the common code word is 'bsi' and the common word is 'he'. So, 'bsi' means 'he'.
Thus, in the second statement, 'mit' means 'goes'.
16. (c) : In the first and third statements, the common code word is 'na' and the common word is 'are'. So, 'na' stands for 'are'.
In the second and third statements, the common code word is 'tok' and the common word is 'bad'. So, 'tok' stands for 'bad'.
Thus, in the third statement, 'tim' stands for 'they'.
17. (e) : Since all the statements have been used to find the answer, so none of the given statements can be dispensed with.
18. (b) : In statements B and C, the common code word is 're' and the common word is 'summer'. So, 're' means 'summer'.
19. (c) : Clearly, both statements A and D are superfluous.
20. (c) : In statements A and B, the common code word is 'na' and the common word is 'water'. So, 'na' means 'water'.
In statements B and D, the common code word is 'jo' and the common word is 'life'. So, 'jo' means 'life'.
Thus, in statement B, 'tod' represents 'is'.
21. (b) : Clearly, statement C is not necessary and hence can be dispensed with.
22. (e) : In statements A and B, the common code word is 'zci' and the common word is 'good'. So, 'zci' stands for 'good'.
In statements A and D, the common code word is 'das' and the common word is 'little'. So, 'das' stands for 'little'.
So, in (A), 'mxy' means 'frock'.
23. (c) : Clearly, statement (C) is not required.
24. (d) : In statements (A) and (B), the common code word is 'pod' and the common word is 'boy'. So, 'pod' stands for 'boy'.
In statements (A) and (D), the common code word is 'joc' and the common word is 'very'. So, 'joc' stands for 'very'.
So, in (A), 'na' stands for 'bright'.
25. (b) : Clearly, statement (C) is not required and can be dispensed with.
26. (a) : In the first and second statements, the common code words are 'ki' and 'ma' and the common words are 'is' and 'playing'. So, 'ki' and 'ma' are the codes for 'is' and 'playing'.
In the second and fourth statements, the common code word is 'kop' and the common word is 'tennis'. So, 'kop' stands for 'tennis'.
Thus, in the second statement, 'ja' stands for 'Asha'.
27. (a) : In statements (B) and (C), the common code word is 'Tim' and the common word is 'knowledge'. So, 'Tim' stands for 'knowledge'.
In statement (B) and (D), the common code word is 'Bis' and the common word is 'seek'. So, 'Bis' stands for 'seek'.
So, in (B), 'Nak' stands for 'Always'.
28. (a) : Clearly, statement (A) is not required.
29. (d) : Proceeding as in above questions, the code for 'every' is either 'ill' or 'dic' and the code for 'concern' is either 'nee' or 'pic'.
30. (b) : In the first and second statements, the common code words are 'Ka' and 'Ya' and the common words are 'very' and 'intelligent'. So, 'Ka' and 'Ya' are the codes for 'very' and 'intelligent'.

In the first and third statements, the common code word is 'Pu' and the common word is 'You'. So, 'Pu' stands for 'You'.

Thus, in the first statement, 'Bi' stands for 'are'.

31. (c) : In the first and second statements, the common code word is 'nac' and the common word is 'green'. So, 'nac' stands for 'green'.

In the second and third statements, the common code word is 'hor' and the common word is 'is'. So, 'hor' stands for 'is'.

So, in the second statement, 'pic' means 'tomato'. In the first and third statements, the common code word is 'bir' and the common word is 'tasty'. So, 'bir' stands for 'tasty'.

32. (c) : In the first and second statements, the common code word is 'kew' and the common word is 'she'. So, 'kew' stands for 'she'.

In the first and third statements, the common code word is 'deko' and the common word is 'apples'. So, 'deko' stands for 'apples'.

33. (c) : In the first and second statements, the common code words are 'cinto' and 'tsi' and the common words are 'her' and 'is'. So, 'cinto' and 'tsi' are the codes for 'her' and 'is'.

In the second and third statements, the common code words are 'cinto', 'tsi' and 'oind' and the common words are 'her', 'is' and 'literature'.

Now, 'cinto' and 'tsi' are codes for 'her' and 'is'. So, 'oind' stands for 'literature'.

34. (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, 'sik' stands for 'red'.

35. (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'.

36. (a) : Clearly, the required code will consist of the same codes as in the third statement with the code for 'red' added to it.

TYPE 6 : MIXED NUMBER CODING

In this type of questions, a few groups of numbers each coding a certain short message, are given. Through a comparison of the given coded messages, taking two at a time, the candidate is required to find the number code for each word and then formulate the code for the message given.

- Ex. 1. In a certain code, '786' means 'study very hard', '958' means 'hard work pays' and '645' means 'study and work'. Which of the following is the code for 'very' ? (S.B.I.P.O. 1994)

(a) 8 (b) 6 (c) 7 (d) Can't be determined (e) None of these

- Sol. In the first and second statements, the common word is 'hard' and the common code digit is '8'. So, '8' means 'hard'.

In the first and third statements, the common word is 'study' and the common code digit is '6'. So, '6' means 'study'.

Thus, in the first statement, '7' means 'very'. Hence, the answer is (c).

- Ex. 2. If in a certain code language, '324' means 'Light is bright', '629' means 'Girl is beautiful' and '4758' means 'I prefer bright clothes', which digit means 'Light' in that language ?

(a) 3 (b) 2 (c) 4 (d) 7 (e) 5

Sol. In the first and second statements, the common word is 'is' and the common code digit is '2'. So, '2' means 'is'.

In the first and third statements, the common word is 'bright' and the common code digit is '4'. So, '4' means 'bright'.

Thus, in the first statement, '3' means 'Light'. Hence, the answer is (a).

EXERCISE 4H

- In a certain code, '37' means 'which class' and '583' means 'caste and class'. What is the code for 'caste'? (Bank P.O. 1993)
(a) 3 (b) 7 (c) 8 (d) Either 5 or 3 (e) Either 5 or 8
- In a certain code language, '743' means 'mangoes are good'; '657' means 'eat good food' and '934' means 'mangoes are ripe'. Which digit means 'ripe' in that language? (Hotel Management, 1992)
(a) 9 (b) 4 (c) 5 (d) 7
- In a certain code language, '134' means 'good and tasty'; '478' means 'see good pictures' and '729' means 'pictures are faint'. Which of the following digits stands for 'see'?
(a) 9 (b) 2 (c) 1 (d) 8
- In a certain code, '247' means 'spread red carpet'; '256' means 'dust one carpet' and '234' means 'one red carpet'. Which digit in that code means 'dust'?
(a) 2 (b) 3 (c) 5 (d) 6 (e) Can't say (R.B.I., 1990)
- In a certain code language, '123' means 'bright little boy', '145' means 'tall big boy' and '637' means 'beautiful little flower'. Which digit in that language means 'bright'?
(a) 1 (b) 3 (c) 4 (d) 6 (e) None of these
- 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 (Railways, 1994)
- In a certain code, '467' means 'leaves are green'; '485' means 'green is good' and '639' means 'they are playing'. Which digit stands for 'leaves' in that code?
(a) 4 (b) 6 (c) 7 (d) 3 (e) None of these (Bank P.O. 1991)
- In a certain code language, '851' means 'good sweet fruit'; '783' means 'good red rose' and '341' means 'rose and fruit'. Which of the following digits stands for 'sweet' in that language?
(a) 8 (b) 5 (c) 1 (d) 3 (e) None of these (B.S.R.B. 1998)
- In a certain code language, '479' means 'fruit is sweet'; '248' means 'very sweet voice' and '637' means 'eat fruit daily'. Which digit stands for 'is' in that code?
(a) 7 (b) 9 (c) 4 (d) Can't be determined (e) None of these (B.S.R.B. 1995)
- In a certain code language, '123' means 'hot filtered coffee'; '356' means 'very hot day' and '589' means 'day and night'. Which digit stands for 'very'?
(a) 9 (b) 5 (c) 8 (d) 2 (e) 6

11. In a certain code, '256' means 'red colour chalk'; '589' means 'green colour flower' and '245' means 'white colour chalk'. Which digit in that code means 'white' ?
 (a) 2 (b) 4 (c) 5 (d) Can't be determined (e) None of these
 (Bank P.O. 1991)
12. In a certain code language, '526' means 'sky is blue'; '24' means 'blue colour' and '436' means 'colour is fun'. Which digit in that language means 'fun' ?
 (a) 5 (b) 4 (c) 3 (d) 2 (e) None of these
13. In a certain code language, '381' means 'Hari is honest'; '162' means 'Shashi is intelligent' and '948' means 'Hari should go'. Which digit in that language means 'honest' ?
 (a) 3 (b) 8 (c) 1 (d) 9 (e) None of these
14. In a certain code, '253' means 'books are old'; '546' means 'man is old' and '378' means 'buy good books'. What stands for 'are' in that code ? (S.B.I.P.O. 1990)
 (a) 2 (b) 4 (c) 5 (d) 6 (e) 9
15. In a certain code, '975' means 'Throw away garbage'; '528' means 'Give away smoking' and '213' means 'Smoking is harmful'. Which digit in that code means 'Give' ?
 (a) 5 (b) 2 (c) 8 (d) 3 (e) None of these

Directions (Questions 16-17) :

In a certain code, '289' means 'read from paper'; '276' means 'tea from field' and '85' means 'wall paper'.

16. Which of the following is the code for 'tea' ?
 (a) 2 (b) 6 (c) Either 2 or 6
 (d) Either 2 or 7 (e) Either 7 or 6
17. Which of the following is the code for 'paper' ?
 (a) 2 (b) 8 (c) 9
 (d) Can't be determined (e) None of these

Directions (Questions 18-19) :

(A) '134' means 'you are well';

(B) '758' means 'they go home';

(C) '839' means 'we are home'.

(Bank P.O. 1994)

18. Which of the following represents 'they' in that code language ?
 (a) 5 (b) 7 (c) 3 (d) 8 (e) Data inadequate
19. Which of the statements can be dispensed with while answering the above question ?
 (a) A only (b) B only (c) A or C only
 (d) B and C only (e) None of these
20. In a certain code language, '617' means 'sweet and hot'; '735' means 'coffee is sweet' and '263' means 'tea is hot'. Which of the following would mean 'coffee is hot' ?
 (a) 731 (b) 536 (c) 367 (d) 753 (e) None of these
21. In a certain code language, '3a, 2b, 7c' means 'Truth is Eternal'; '7c, 9a, 8b, 3a' means 'Enmity is not Eternal' and '9a, 4d, 2b, 8b' means 'Truth does not perish'. Which of the following means 'enmity' in that language ? (S.B.I.P.O. 1991)
 (a) 3a (b) 7c (c) 8b (d) 9a (e) None of these

ANSWERS

1. (e) : In the given statements, the common code digit is '3' and the common word is 'class'.
So, '3' means 'class'.
Thus, in the second statement, either 5 or 8 stands for 'caste'.
2. (a) : In the first and third statements, the common code digits are '4' and '3' and the common words are 'mangoes' and 'are'.
So, '4' and '3' are the codes for 'mangoes' and 'are'.
Thus, in the third statement, '9' means 'ripe'.
3. (d) : In the first and second statements, the common code digit is '4' and the common word is 'good'. So, '4' stands for 'good'.
In the second and third statements, the common code digit is '7' and the common word is 'pictures'. So, '7' means 'pictures'.
Thus, in the second statement, '8' means 'see'.
4. (c) : In the first and second statements, the common code digit is '2' and the common word is 'carpet'. So, '2' means 'carpet'.
In the second and third statements, the common code digit is '6' and the common word is 'one'. So, '6' means 'one'.
Therefore, in the second statement, '5' means 'dust'.
5. (e) : In the first and second statements, the common code digit is '1' and the common word is 'boy'. So, '1' means 'boy'.
In the first and third statements, the common code digit is '3' and the common word is 'little'. So, '3' means 'little'.
Thus, in the first statement, '2' means 'bright'.
6. (c) : In the first and third statements, the common code digit is '5' and the common word is 'good'. So, '5' means 'good'.
In the second and third statements, the common code digit is '3' and the common word is 'bad'. So, '3' means 'bad'.
Thus, in the third statement, '8' means 'and'.
7. (c) : In the first and second statements, the common code digit is '4' and the common word is 'green'. So, '4' means 'green'.
In the first and third statements, the common code digit is '6' and the common word is 'are'. So, '6' means 'are'.
Thus, in the first statement, '7' means 'leaves'.
8. (b) : In the first and second statements, the common code digit is '8' and the common word is 'good'. So, '8' means 'good'.
In the first and third statements, the common code digit is '1' and the common word is 'fruit'. So, '1' means 'fruit'.
Thus, in the first statement, '5' means 'sweet'.
9. (b) : In the first and second statements, the common code digit is '4' and the common word is 'sweet'. So, '4' means 'sweet'.
In the first and third statements, the common code digit is '7' and the common word is 'fruit'. So, '7' means 'fruit'.
Thus, in the first statement, '9' means 'is'.
10. (e) : In the first and second statements, the common code digit is '3' and the common word is 'hot'. So, '3' means 'hot'.
In the second and third statements, the common code digit is '5' and the common word is 'day'. So, '5' means 'day'.
Thus, in the second statement, '6' means 'very'.

11. (b) : In the second and third statements, the common code digit is '5' and the common word is 'colour'. So, '5' means 'colour'.
In the first and third statements, '5' means 'colour'. The other common code digit is '2' and the common word is 'chalk'. So, '2' means 'chalk'.
Thus, in the third statement, '4' means 'white'.
12. (c) : In the first and third statements, the common code digit is '6' and the common word is 'is'. So, '6' means 'is'.
In the second and third statements, the common code digit is '4' and the common word is 'colour'. So, '4' means 'colour'.
Thus, in the third statement, '3' means 'fun'.
13. (a) : In the first and second statements, the common code digit is '1' and the common word is 'is'. So, '1' means 'is'.
In the first and third statements, the common code digit is '8' and the common word is 'Hari'. So, '8' stands for 'Hari'.
Thus, in the first statement, '3' means 'honest'.
14. (a) : In the first and second statements, the common code digit is '5' and the common word is 'old'. So, '5' means 'old'.
In the first and third statements, the common code digit is '3' and the common word is 'books'. So, '3' means 'books'.
Thus, in the first statement, '2' means 'are'.
15. (c) : In the first and second statements, the common code digit is '5' and the common word is 'away'. So, '5' means 'away'.
In the second and third statements, the common code digit is '2' and the common word is 'smoking'. So, '2' means 'smoking'.
Thus, in the second statement, '8' means 'Give'.

Questions 16-17

In the first and second statements, the common code digit is '2' and the common word is 'from'. So, '2' is the code for 'from'.

In the first and third statements, the common code digit is '8' and the common word is 'paper'. So, '8' is the code for 'paper'.

16. (e) : Clearly, in the second statement, either '7' or '6' may be the code for 'tea'.
17. (b) : As shown above, '8' is the code for 'paper'.

Questions 18-19

We can find the code for 'home' from the second and third statements.

For finding the code for 'they', we need the code for 'go' which cannot be determined from the given data.

18. (e) : Data inadequate
19. (a) : Clearly, statement A is not necessary.
20. (b) : In the first and third statements, the common code digit is '6' and the common word is 'hot'. So, '6' means 'hot'.
In the second and third statements, the common code digit is '3' and the common word is 'is'. So, '3' means 'is'.
In the first and second statements, the common code digit is '7' and the common word is 'sweet'.
So, in the second statement, '5' means 'coffee'.
Clearly, '536' would mean 'coffee is hot'.
21. (c) : In the second and third statements, the common code is '9a' and the common word is 'not'. So, '9a' means 'not'.
In the first and second statements, the common codes are '7c' and '3a' and the common words are 'is' and 'Eternal'.
So, in the second statement, '8b' means 'enmity'.

TYPE 7 : DECIPHERING INDIVIDUAL LETTER CODES BY ANALYSIS

In this type of questions, certain sample words are given along with their codes. The candidate is required to decipher individual codes for different letters by comparing, taking two words at a time, and then answer the given questions accordingly.

Example : *Below, in column I, are given some words. These have been translated into a code language. The code equivalents of the words in column I given in column II are not necessarily opposite to the corresponding words. Moreover, the codes for the different letters in each word have also not been given in the same order as these letters occur in the original word. Study the two columns carefully and then of the four alternatives given in each question, find the one that has the code equivalents of the letters of the word given in the question. This is your answer.* (Hotel Management, 1996)

Column I

DELIBERATION
CONSIDERATE
GHOSTLIKE
WORLDLY
KNOWLEDGE
ROCKET

Column II

aemrqs
ccehlmo
cfhmoqrx
cdgmqrssz
adefmopqsz
cefkmpqqszz

- | | | | | |
|-----------|-------------|------------|------------|------------|
| 1. SOLACE | (a) aedpqr | (b) acemoq | (c) acdmpq | (d) demopq |
| 2. KNIGHT | (a) fgrrsxz | (b) gprssz | (c) fhmpqr | (d) ghrxyz |
| 3. WORDY | (a) fhlmq | (b) ehlmo | (c) efhlm | (d) adeop |
| 4. NOTICE | (a) acdeqs | (b) afmqsz | (c) efhpqs | (d) fghpqr |
| 5. BLOAT | (a) lkpqz | (b) hmpqz | (c) cmpqs | (d) ckmps |

Solution : We first find the exact codes of the given words.

DELIBERATION is a twelve-letter word. So, its code is cefkmpqqszz.

CONSIDERATE is an eleven-letter word. So, its code is adefmopqqs.

GHOSTLIKE and KNOWLEDGE are nine-letter words and the codes are cfhmoqrx and cdgmqrssz. KNOWLEDGE has two E's and so its code will also contain two identical letters. Thus, its code is cfhmoqrx.

So, the code for GHOSTLIKE is cdgmqrssz.

WORLDLY is a seven-letter word. So, its code is ccehlmo.

ROCKET is a six-letter word. So, its code is aemrqs.

Rearranging the words and their codes, we have :

DELIBERATION
CONSIDERATE
GHOSTLIKE
WORLDLY
KNOWLEDGE
ROCKET

cefkmpqqszz
adefmopqqs
cdgmqrssz
ccehlmo
cfhmoqrx
aemrqs

The common letter in the given words is **O** and the common code letter is **m**. So, **m** stands for **O**.

In **WORLDLY** and **ROCKET**, the common code letter **m** stands for **O**. The other common code letter **e** stands for **R**.

In **GHOSTLIKE** and **WORLDLY**, the other common code letter **c** stands for **L**.

In **DELIBERATION** and **WORLDLY**, the common code letters, **c**, **e** and **m** stand for **L**, **R** and **O** respectively. The other common code letter **o** stands for **D**.

In **WORLDLY** and **KNOWLEDGE**, the common code letters, **m**, **c** and **o** stand for **O**, **L** and **D** respectively. So, the other common code letter **h** stands for **W**.

In **KNOWLEDGE**, there are two **E**'s and the letter **q** occurs twice in the code. So, **q** stands for **E**.

In **KNOWLEDGE** and **ROCKET**, the common code letters **m** and **q** stand for **O** and **E** respectively. So, the other common code **r** stands for **K**.

In **GHOSTLIKE** and **ROCKET**, the common code letters, **m**, **r** and **q** stand for **O**, **K** and **E** respectively. So, the other common code letter **s** stands for **T**.

In **ROCKET**, the remaining code letter **a** stands for **C**.

In **GHOSTLIKE** and **KNOWLEDGE**, the common code letters **m**, **c**, **r** and **q** stand for **O**, **L**, **K** and **E** respectively. So, the other common code letter **x** stands for **G**.

In **KNOWLEDGE**, the remaining code letter **f** stands for **N**.

In **DELIBERATION** and **GHOSTLIKE**, the common code letters **q**, **c**, **s** and **m** stand for **E**, **L**, **T** and **O** respectively. So, the common code letter **z** stands for **I**.

In **CONSIDERATE** and **GHOSTLIKE**, the common code letters **m**, **z**, **q** and **s** stand for **O**, **I**, **E** and **T** respectively. So, the common code letter **d** stands for **S**.

In **GHOSTLIKE**, the remaining code letter **g** stands for **H**.

In **CONSIDERATE**, the remaining code letter **p** stands for **A**.

In **DELIBERATION**, the remaining code letter **k** stands for **B**.

The information can be summarised as below :

Code	m	e	c	o	h	l	q	r	s	a	x	f	z	d	g	p	k
Letter	O	R	L	D	W	Y	E	K	T	C	G	N	I	S	H	A	B

- (c) : The code for **S** is **d**, for **O** is **m**, for **L** is **c**, for **A** is **p**, for **C** is **a** and for **E** is **q**.
So, the code for **SOLACE** is **dmcpaq** or **acdmqp**.
- (a) : The code for **K** is **r**, for **N** is **f**, for **I** is **z**, for **G** is **x**, for **H** is **g** and for **T** is **s**.
So, the code for **KNIGHT** is **rfzngx** or **fgsrzx**.
- (b) : The code for **W** is **h**, for **O** is **m**, for **R** is **e**, for **D** is **o** and for **Y** is **l**.
So, the code for **WORDY** is **hmeol** or **ehlmo**.
- (b) : The code for **N** is **f**, for **O** is **m**, for **T** is **s**, for **I** is **z**, for **C** is **a** and for **E** is **q**.
So, the code for **NOTICE** is **fmszaq** or **afmqsz**.
- (d) : The code for **B** is **k**, for **L** is **c**, for **O** is **m**, for **A** is **p** and for **T** is **s**.
So, the code for **BLOAT** is **kcmps** or **ckmps**.

EXERCISE 4I

Directions (Questions 1 to 10) : According to a code language, words in capital letters in column I are written in small letters in column II. The letters in column II are jumbled up. Decode the language and choose the correct code for the word given in each question.

Column I
(1) CURSE

Column II
(A) opkif

17. S (a) k (b) p (c) v (d) None of these
 18. T (a) a (b) b (c) e (d) None of these

Directions (Questions 19 to 25) : Below in column I are given some words and in column II are given their equivalents in some code language. Words in column II do not appear in the same order as in column I. Moreover, the order of letters is also jumbled. Decode the language and choose the correct alternative which is the equivalent of the given word.

Column I		Column II		
(1) TAPE		(A) moij		
(2) COUP		(B) lhhpok		
(3) TIE		(C) nls		
(4) ROTATE		(D) nhpk		
(5) SAY		(E) nkpl		
(6) TREAT		(F) msr		
(7) YEAR		(G) khlpk		
(8) SIP		(H) hrp		
(9) TYRE		(I) pmlh		
19. SOUP				
(a) osmj	(b) sojm	(c) osjm	(d) somj	(e) joms
20. REACT				
(a) lhpjk	(b) lihpr	(c) pkjih	(d) jklph	(e) kplih
21. TRACE				
(a) hiklp	(b) hlkp	(c) hklip	(d) piklh	(e) pklih
22. POSSESS				
(a) msoopoo	(b) mossps	(c) porrrr	(d) mpiioi	(e) mpjioj
23. CREATE				
(a) ljkhkn	(b) jknlhn	(c) jlhip	(d) ikplhp	(e) ilpkhp
24. EASY				
(a) lnps	(b) lpns	(c) pns	(d) pnls	(e) snpl
25. CURE				
(a) ijkp	(b) pikj	(c) ikpj	(d) kipj	(e) jikp

Directions (Questions 26 to 35) : In column I, some words are given. In column II, their codes are given but they are not arranged in the same order in which they are in column I. Study the letters in both columns and find out the code to the letter given in each of the following questions.

(A.A.O. Exam, 1986)

Column I	Column II	Column I	Column II
(1) BID	(A) nnrw	(8) ROSE	(H) iotx
(2) BAT	(B) emps	(9) VEX	(I) aceenoww
(3) BAD	(C) lwz	(10) WAVE	(J) elu
(4) CHEAP	(D) aejmnq	(11) NAMELY	(K) befms
(5) HILL	(E) kms	(12) FAMILIAR	(L) moty
(6) PORK	(F) emrux	(13) HAZY	(M) elz
(7) QUOTE	(G) ehqr	(14) VAGUE	(N) dfmtu

- (2) INCUR
 (3) TALLY
 (4) CADET
 (5) DRIP
 (6) TOIL
 (7) VARY

- (B) fbpoc
 (C) ughvg
 (D) rkufh
 (E) rote
 (F) jugc
 (G) vwoh

- | | | | | |
|------------|-------------|-------------|-------------|-------------|
| 1. DAIRY | (a) cvohr | (b) gkvbf | (c) rctvo | (d) whtou |
| 2. TODAY | (a) rjuyh | (b) kjuvh | (c) rjuvh | (d) rjuvk |
| 3. PIECE | (a) fvuyr | (b) fktek | (c) fboev | (d) frgkp |
| 4. CIVIL | (a) gfwec | (b) ghcww | (c) ggwfc | (d) gwffc |
| 5. SUSTAIN | (a) hibucpi | (b) hkcrjbk | (c) hwojfvw | (d) hgpukgc |
| 6. TRIED | (a) ukfhr | (b) ubovc | (c) ukhbp | (d) ukorc |
| 7. RACE | (a) kovp | (b) kbef | (c) khfo | (d) krbh |
| 8. ENVOY | (a) kbjwu | (b) jvbkw | (c) hjbv w | (d) vbpu k |
| 9. RIVET | (a) wckou | (b) ckwiu | (c) wckov | (d) kcvow |
| 10. SUN | (a) pih | (b) bih | (c) pib | (d) ikh |

Directions (Questions 11 to 18) : In column I below, some words are given. In column II, their codes are given but they are not arranged in the same order in which they are in column I. Study the letters in both the columns and find out the code to the letter given in each of the following questions, from among the given alternatives.

(A.A.O. Exam, 1988)

Column I

- (1) SOUND
 (2) ADDRESS
 (3) CRUX
 (4) NET
 (5) CRONY
 (6) CROWDY

Column II

- (A) abi
 (B) cjm v
 (C) ikmop
 (D) ijktv
 (E) jkgotv
 (F) blooppv

- | | | | | |
|-------|-------|-------|-------|-------------------|
| 11. A | (a) b | (b) l | (c) v | (d) None of these |
| 12. C | (a) j | (b) k | (c) l | (d) None of these |
| 13. D | (a) k | (b) l | (c) m | (d) None of these |
| 14. N | (a) a | (b) e | (c) q | (d) None of these |
| 15. O | (a) i | (b) j | (c) k | (d) None of these |
| 16. R | (a) o | (b) p | (c) v | (d) None of these |

- | | | | | |
|-------|-------|-------|-------|-------|
| 26. B | (a) l | (b) u | (c) e | (d) z |
| 27. C | (a) e | (b) z | (c) u | (d) p |
| 28. D | (a) e | (b) z | (c) u | (d) k |
| 29. F | (a) r | (b) f | (c) w | (d) c |
| 30. G | (a) a | (b) c | (c) b | (d) j |
| 31. H | (a) t | (b) r | (c) l | (d) s |
| 32. A | (a) r | (b) t | (c) s | (d) e |
| 33. K | (a) h | (b) j | (c) i | (d) k |
| 34. M | (a) b | (b) a | (c) c | (d) d |
| 35. Z | (a) h | (b) g | (c) f | (d) i |

Directions (Questions 36 to 40) : According to a code language, words in column I are given in column II. Decode the language and choose the correct code for each of the words given in the following questions. The letters in column II need not appear in the same order as they do in column I.

- | Column I | Column II | Column I | Column II |
|------------|------------|------------|------------|
| (1) CHIEF | (A) knqwy | (9) BASED | (I) gstrnd |
| (2) NIGHT | (B) akwjb | (10) PSYCO | (J) qutzb |
| (3) THIRD | (C) kvhwg | (11) TOWEL | (K) nzche |
| (4) MONEY | (D) njumz | (12) FALSE | (L) ynest |
| (5) WOMAN | (E) zcjms | (13) DOWRY | (M) cvguz |
| (6) WORKS | (F) ctvzo | (14) STOCK | (N) toqhz |
| (7) BASIC | (G) dtwsq | (15) TRAIN | (O) swlvj |
| (8) HENRY | (H) jvunk | | |
| 36. AUGUST | (b) llstah | (c) altpss | (d) nstddz |
| (a) hhatdb | | | |
| 37. BOARD | (b) ctdzg | (c) sdwqz | (d) gzdvz |
| (a) wtvgz | | | |
| 38. JUNIOR | (b) clogwj | (c) flogvz | (d) ljfzco |
| (a) jlzvf | | | |
| 39. DIGEST | (b) angwht | (c) aknthj | (d) gonqwt |
| (a) kwghqv | | | |
| 40. DEAF | (b) knty | (c) ygns | (d) wgsd |
| (a) tgnz | | | |

Directions (Questions 41 to 45) : In each of the following questions, a word has been written in four different code languages. One of the code languages is common to all the five questions. The code equivalent of the word in that code language is your answer in each question.

(Hotel Management, 1997)

- | | | | | |
|-------------|-------------|-------------|-------------|-------------|
| 41. CLUSTER | (a) YHPQDXE | (b) BKTUSDQ | (c) BITSVEO | (d) XFJNOQP |
| 42. LIGHT | (a) HVWJD | (b) KHIGS | (c) CIMKN | (d) KJHGS |
| 43. TRIVIAL | (a) SQHXCK | (b) DEVCVZH | (c) VOHXHAI | (d) SQJUBK |

44. NUMBER
 (a) ZJAWQP (b) MTOADQ (c) GPTMXE (d) MVNAFQ
45. BRAVE
 (a) AQBUEF (b) WRYJQ (c) DOAXE (d) MEZCX

ANSWERS

Questions 1 to 10

- In CURSE and VARY, the common code letter is **o** and the common letter is **R**.
 So, **o** stands for **R**.
- In CADET and VARY, the common code letter is **h** and the common letter is **A**.
 So, **h** stands for **A**.
- In TALLY and VARY, the common code letter **h** means **A**. The other common code letter is **v** and the other common letter is **Y**. So, **v** stands for **Y**.
 Thus, in VARY, the remaining code letter **w** stands for **V**.
- In CADET and TOIL, the common code letter is **u** and the common letter is **T**.
 So, **u** stands for **T**.
- In INCUR and TOIL, the common code letter is **c** and the common letter is **I**.
 So, **c** stands for **I**.
- In TALLY and TOIL, the common code letter **u** stands for **T**. The other common code letter is **g** and the other common letter is **L**. So, **g** stands for **L**.
 Thus, in TOIL, the remaining code letter **j** stands for **O**.
- In CADET and DRIP, the common code letter is **r** and the common letter is **D**.
 So, **r** stands for **D**.
- In DRIP, **o** stands for **R**, **c** stands for **I**. So, the remaining code letter **t** stands for **P**.
- In INCUR, CURSE and CADET, the common code letter is **f** and the common letter is **C**. So, **f** stands for **C**.
- In INCUR and CURSE, the common code letters **f** and **o** mean **C** and **R** respectively.
 So, the remaining code letter **p** stands for **U**.
- Thus, in INCUR, the remaining code letter **b** stands for **N**.
- In CURSE and CADET, the common code letter **f** means **C**. So, the other common code letter **k** means **E**.
 Thus, in CURSE, the remaining code letter **i** means **S**.
- The information can be summarised as below :

Code	o	h	v	w	u	c	g	j	r	t	f	p	b	k	i
Letter	R	A	Y	V	T	C	L	O	D	P	C	U	N	E	S

- (a) : The code for D is **r**, for A is **h**, for I is **c**, for R is **o** and for Y is **v**.
 So, code for DAIRY is rhcov.
- (c) : The code for T is **u**, for O is **j**, for D is **r**, for A is **h** and for Y is **v**.
 So, the code for TODAY is ujrhv.
- (b) : The code for P is **t**, for I is **c**, for E is **k** and for C is **f**.
 So, the code for PIECE is tckfk or ftkck.
- (a) : The code for C is **f**, for I is **c**, for V is **w** and for L is **g**.
 So, the code for CIVIL is fcwgc or gfwcc.
- (a) : The code for S is **i**, for U is **p**, for T is **u**, for A is **h**, for I is **c** and for N is **b**.
 So, the code for SUSTAIN is ipiuhcb or hibucpi.
- (d) : The code for T is **u**, for R is **o**, for I is **c**, for E is **k** and for D is **r**.
 So, the code for TRIED is uockr or ukorc.

7. (c) : The code for R is **o**, for A is **h**, for C is **f** and for E is **k**.
So, the code for RACE is ohfk or khfo.
8. (b) : The code for E is **k**, for N is **b**, for V is **w**, for O is **j** and for Y is **v**.
So, the code for ENVOY is kbwvj or jvbkw.
9. (a) : The code for R is **o**, for I is **c**, for V is **w**, for E is **k** and for T is **u**.
So, the code for RIVET is ocwku or wckou.
10. (c) : The code for S is **i**, for U is **p** and for N is **b**.
So, the code for SUN is ipb or pib.

Questions 11 to 18

Clearly, the only three letter word is NET. So, its code is abi. The only four letter word is CRUX. So, its code is cjm v. The two five letter words are SOUND and CRONY and codes are ikmop, and ijktv. Clearly, CRONY has two common letters C and R with CRUX and the letters j and v in the code for CRUX are common with the code ijktv. So, the code for CRONY is ijktv and that for SOUND is ikmop. The only six letter word is CROWDY. So, its code is jkgotv. The only seven letter word is ADDRESS. So, its code is blooppv. So, rearranging the words and their codes, we have :

NET	abi
CRUX	cjmv
CRONY	ijktv
SOUND	ikmop
CROWDY	jkgotv
ADDRESS	blooppv

In NET and CRONY, the common code letter is **i** and the common letter is **N**.
So, **i** stands for **N**.

In NET and ADDRESS, the common code letter is **b** and the common letter is **E**.
So, **b** stands for **E**. Thus, in NET, the remaining code letter **a** stands for **T**.

In CRUX and ADDRESS, the common code letter is **v** and the common letter is **R**.
So, **v** stands for **R**.

In CRUX and CRONY, the common code letter **v** stands for **R**. So, the other common code letter **j** stands for **C**.

In CRUX and SOUND, the common code letter is **m** and the common letter is **U**.
So, **m** stands for **U**.

Thus, in CRUX, the remaining code letter **c** stands for **X**.

In CRONY and SOUND, the common code letter **i** stands for **N**. So, the other common code letter **k** stands for **O**.

Thus, in CRONY, the remaining code letter **t** stands for **Y**.

In SOUND and CROWDY, the common code letter **k** means **O**. So, the other common code letter **o** stands for **D**.

Thus, in SOUND, the remaining code letter **p** stands for **S**.

In CROWDY, the remaining code letter **g** stands for **W**.

In ADDRESS, the remaining code letter **l** stands for **A**.

Thus, the information can be summarised as follows :

Code	i	b	a	v	j	m	c	k	t	o	g	p	l
Letter	N	E	T	R	C	U	X	O	Y	D	W	S	A

11. (b) : Clearly, the code letter for A is **L**.

12. (a) : Clearly, the code letter for C is **J**.

13. (d) : The code letter for D is **o** and none among the choices.

14. (d) : The code letter for N is **i** and none among the choices.

15. (c) : The code letter for O is **k**.
 16. (c) : The code letter for R is **v**.
 17. (b) : The code letter for S is **p**.
 18. (a) : The code letter for T is **a**.

Questions 19 to 25

The only seven letter word is **ROTATE**. So, its code is **lhhpok**.

The only five letter word is **TREAT**. So, its code is **khlp**.

The four letter words are **TAPE**, **COUP**, **YEAR** and **TYRE** and the codes are **moij**, **nhpk**, **nkpl** and **pmhl**. **COUP** has one letter O common with **ROTATE**. So, its code is **moij** which has only one code letter 'o' common with that of **ROTATE**.

TAPE has one letter P common with **COUP**. So, its code is **pmhl** which has one code letter 'm' common with that of **COUP**. **YEAR** and **TYRE** have the codes **nhpk** and **nkpl**, the common code letters n, k and p standing for Y, E and R. Now in **TREAT**, the letter T appears twice and in its code the letter h appears twice. So, h is for T. Thus, the code for **TYRE** is **nhpk** and that for **YEAR** will be **nkpl**.

The three letter words are **TIE**, **SAY**, **SIP** and the three letter codes are **nls**, **msr**, **hrp**. The code 'h' is for T. So, **TIE** is coded as **hrp**. **SIP** has I common with **TIE**. So, its code will be **msr**. Thus, the code for **SAY** is **nls**.

Rearranging the words and their codes, we have :

SAY	nls
SIP	msr
TIE	hrp
YEAR	nkpl
TYRE	nhpk
TAPE	pmhl
COUP	moij
TREAT	khlp
ROTATE	lhhpok

In **SAY** and **SIP**, the common code letter is **s** and the common letter is **S**. So, **s** stands for **S**.

In **SAY** and **TYRE**, the common code letter is **n** and the common letter is **Y**. So, **n** stands for **Y**. Thus, in **SAY**, the remaining code letter **l** stands for **A**.

In **SIP** and **TIE**, the common code letter is **r** and the common letter is **I**. So, **r** stands for **I**. Thus, in **SIP**, the remaining code letter **m** stands for **P**.

In **TIE** and **YEAR**, the common code letter is **p** and the common letter is **E**. So, **p** stands for **E**. Thus, in **TIE**, the remaining code letter **h** stands for **T**.

In **YEAR** and **TYRE**, the common code letters **n** and **p** stand for **Y** and **E**. So, the remaining common code letter **k** stands for **R**.

In **COUP** and **ROTATE**, the common code letter **o** stands for **O**.

Thus, in **COUP**, the remaining code letters **i** and **j** stand for **C** and **U**.

Thus, the information can be summarised as follows :

Code	s	n	l	r	m	p	h	k	o	j	i
Letter	S	Y	A	I	P	E	T	R	O	U	C

19. (b) : The code for **S** is **s**, for **O** is **o**, for **U** is **j** or **i** and for **P** is **m**. But in the question, **i** is nowhere mentioned. So, code for **U** is **j**. Thus, the code for **SOUP** is **sojm**.
 20. (e) : The code for **R** is **k**, for **E** is **p**, for **A** is **l**, for **C** is **i** and for **T** is **h**. So, the code for **REACT** is **kplih**.

21. (c) : The code for T is **h**, for R is **k**, for A is **l**, for C is **i** and for E is **p**. So, the code for TRACE is **hklip**.
22. (b) : The code for P is **m**, for O is **o**, for S is **s** and for E is **p**. So, the code for POSSESS is **moosps**.
23. (d) : The code for C is **i**, for R is **k**, for E is **p**, for A is **l** and for T is **h**. So, the code for CREATE is **iklph**.
24. (c) : The code for E is **p**, for A is **l**, for S is **s** and for Y is **n**. So, the code for EASY is **plsn**.
25. (a) : The code for C is **i**, for U is **j**, for R is **k** and for E is **p**. So, the code for CURE is **ijkp**.

Questions 26 to 35

The only eight letter word is **FAMILIAR**. So, its code is **aceenoww**.

The only six letter word is **NAMELY**. So, its code is **aejmnq**.

The five letter words are **CHEAP**, **QUOTE** and **VAGUE** and the codes are **emrux**, **befms**, **afmtu**. A is common to **FAMILIAR**, **CHEAP** and **VAGUE**. So, the common code letter **e** stands for A and thus **CHEAP** and **VAGUE** have codes **emrux** and **befms**. So, the code for **QUOTE** is **afmtu**. **VAGUE** has two common letters with **QUOTE**. So, its code is **befms**. Thus, the code for **CHEAP** is **emrux**.

The four letter words are **HILL**, **PORK**, **ROSE**, **WAVE**, **HAZY** and the codes are **nnrw**, **emps**, **ehqr**, **iotx**, and **moty**. Only **HILL** has a letter repeated twice. So, its code is **nnrw**. Only **WAVE** has three letters common with **VAGUE**. So, its code is **emps**. The code for A is **e**. So, the code containing **e** and a code letter common with **HILL** is the code for **HAZY**. Thus, code for **HAZY** is **ehqr**. Now the code having common letter with that of **WAVE** is the code for **ROSE**. So, the code for **ROSE** is **moty**. Thus, the code for **PORK** is **iotx**.

The three letter words are **BID**, **BAT**, **BAD** and **VEX** and the codes are **lwz**, **kms**, **elz** and **elz**. **VEX** has two letters common with **WAVE**. So, its code is **kms**. **BAT** has a letter T common with **QUOTE**. So, its code is **elz**. **BAD** has two letters common with **BAT**. So, its code is **elz**. So, the code for **BID** is **lwz**.

Rearranging the words and their codes, we have :

BID	lwz
BAD	elz
BAT	elz
VEX	kms
PORK	iotx
ROSE	moty
HAZY	ehqr
WAVE	emps
HILL	nnrw
CHEAP	emrux
VAGUE	befms
QUOTE	dfmtu
NAMELY	aejmnq
FAMILIAR	aceenoww

In **BID**, **BAD** and **BAT**, the common code letter is **l** and the common letter is **B**. So, **l** stands for **B**. In **BID** and **BAT**, the other common code letter **z** stands for **D**.

So, the remaining code letter **w** in **BID** stands for **I** and **e** in **BAD** stands for **A**.

In **WAVE** and **ROSE**, the common code letter is **m** and the common letter is **E**.

So, **m** stands for **E**. In **VEX** and **WAVE**, the other common code letter **s** stands for **V**. Thus, in **VEX**, the remaining code letter **k** stands for **X**.

In **WAVE**, the remaining code letter **p** stands for **W**.

In **PORK** and **QUOTE**, the common code letter is **t** and the common letter is **O**. So, **t** stands for **O**.

In PORK and ROSE, the other common code letter o stands for R.

In PORK and CHEAP, the common code letter is x and the common letter is P. So, x stands for P.

Thus, in PORK, the remaining code letter i stands for K.

In ROSE, the remaining code letter y stands for S.

In HAZY and NAMELY, the other common code letter q stands for Y.

In HAZY and HILL, the common code letter is r and the common letter is H. So, r stands for H.

Thus, in HAZY, the remaining code letter h stands for Z.

In HILL, the code repeated twice is n and letter is L. So, n stands for L.

In CHEAP, the remaining code letter u stands for C.

In VAGUE and QUOTE, the common code letter m means E.

So, the remaining code letter f stands for U.

Thus, in VAGUE, the remaining code letter b means G.

In QUOTE, the remaining code letter d stands for Q.

In NAMELY and FAMILIAR, the common code letter e and n stand for A and L respectively. So, the remaining common code letter a stands for M. Thus, in NAMELY, the remaining code letter j stands for N. In FAMILIAR, the remaining code letter c stands for F.

The information can be summarised as below :

Code	l	z	w	e	m	s	k	p	t	o	x	i
Letter	B	D	I	A	E	V	X	W	O	R	P	K
Code	y	q	r	h	n	u	f	b	d	a	j	c
Letter	S	Y	H	Z	L	C	U	G	Q	M	N	F

26. (a) : The code for B is l.

27. (c) : The code for C is u.

28. (b) : The code for D is z.

29. (d) : The code for F is c.

30. (c) : The code for G is b.

31. (b) : The code for H is r.

32. (d) : The code for A is e.

33. (c) : The code for K is i.

34. (b) : The code for M is a.

35. (a) : The code for Z is h.

Questions 36 to 40

In CHIEF and PSYCO, the common code letter is q and the common letter is C. So, q stands for C.

In CHIEF and MONEY, the common code letter n stands for E.

In CHIEF and HENRY, the common code letter n stands for E.

So, the other common code letter k stands for H.

In CHIEF and BASIC, the common code letter q stands for C.

So, the other common code letter w stands for I.

Thus, in CHIEF, the remaining code letter y stands for F.

In NIGHT and MONEY, the common code letter j stands for N.

In NIGHT and TOWEL, the common code letter h stands for T.

Thus, in NIGHT, the remaining code letter a stands for G.

In THIRD and BASED, the common code letter g stands for D.

Thus, in THIRD, the remaining code letter v stands for R.

In MONEY and WORKS, the common code letter z stands for O.

In MONEY and PSYCO, the common code letter z stands for O.

So, the other common code letter u stands for Y. In MONEY and WOMAN, the common code letter z stands for O and j stands for N. So, the remaining code letter m stands for M. In WORKS and TOWEL, the common code letter z stands for O.

So, the remaining common code letter e stands for W.

In WORKS and BASIC, the common code letter is t and the common letter is S.

So, t stands for S. Thus, in WORKS, the remaining code letter o stands for K.

In BASIC and FALSE, the common code letter t stands for S.

So, the other common code letter s stands for A.

In BASIC and BASED, the common code letters s and t stand for A and S respectively.

So, the remaining code letter d stands for B. In PSYCO, the remaining code letter b stands for P.

The information can be summarised as follows :

Code	q	n	k	w	y	j	h	a	g	v	z	u	m	c	t	o	s	d	b
Letter	C	E	H	I	F	N	T	G	D	R	O	Y	M	W	S	K	A	B	P

36. (b) : The code for A is s, for G is a, for S is t and for T is h.

So, the code contains the letters, sath which are contained in llstah only.

37. (d) : The code for B is d, for O is z, for A is s, for R is v and for D is g.

So, BOARD is coded as dzsvg or gzdvs.

38. (a) : The code for U as in Q. 36 is l, for N is j, for I is w, for O is z and for R is v.

So, the code for JUNIOR contains ljwzv.

39. (b) : The code for D is g, for I is w, for G is a, for E is n, for S is t and for T is h.

So, the code for DIGEST is gwanth or angwht.

40. (c) : The code for D is g, for E is n, for A is s and for F is y.

So, the code for DEAF is gnsy or ygns.

Questions 41 to 45

This is a special type of problem. In such type of questions, the code letters in the code equivalent of the word are in the same sequence as the letters in the word.

41. (a) : Clearly, the letters E and R are common to CLUSTER, NUMBER and BRAVE.

According to the alternatives in Q. 41, the codes for E and R could be X and E or D and Q or E and O or Q and P.

According to the alternatives in Q. 44, the codes for E and R could be Q and P or D and Q or X and E or F and Q.

According to the alternatives in Q. 45, the codes for E and R could be F and Q or Q and R or E and O or X and E.

The codes common to all the three possibilities above are X and E.

Since only (a) contains these codes, so (a) is the right code equivalent for CLUSTER.

Thus, code for C is Y, for L is H, for U is P, for S is Q, for T is D and so on.

42. (a) : The code for L is H and only (a) contains H at the first place.

43. (b) : The code for T is D and only (b) contains D at the first place.

44. (c) : The codes for E and R are X and E respectively and only (c) contains X and E at the last two places.

45. (d) : The codes for R and E are E and X respectively and only (d) contains E and X at the corresponding places i.e., the second and fifth places.

5. BLOOD RELATIONS

In these tests, the success of a candidate depends upon the knowledge of the blood relations, some of which are summarized below to help solve these tests.

Mother's or father's son	Brother
Mother's or father's daughter	Sister
Mother's or father's brother	Uncle
Mother's or father's sister	Aunt
Mother's or father's father	Grandfather
Mother's or father's mother	Grandmother
Son's wife	Daughter-in-Law
Daughter's husband	Son-in-Law
Husband's or wife's sister	Sister-in-Law
Husband's or wife's brother	Brother-in-Law
Brother's son	Nephew
Brother's daughter	Niece
Uncle or aunt's son or daughter	Cousin
Sister's husband	Brother-in-Law
Brother's wife	Sister-in-Law
Grandson's or Grand daughter's daughter	Great grand daughter

TYPE 1 : DECIPHERING JUMBLED UP DESCRIPTIONS

In this type of questions, a round-about description is given in the form of certain small relationships and direct relationship between the persons concerned is to be deciphered.

Ex. 1. Pointing to a photograph, a man said, "I have no brother or sister but that man's father is my father's son." Whose photograph was it ?

- (a) His own (b) His son's (c) His father's
(d) His nephew's (e) None of these (Hotel Management, 1996)

Sol. Since the narrator has no brother, his father's son is he himself. So, the man who is talking is the father of the man in the photograph or the man in the photograph is his son.

Hence, the answer is (b).

Ex. 2. Anil introduces Rohit as the son of the only brother of his father's wife. How is Rohit related to Anil ?

- (a) Cousin (b) Son (c) Uncle (d) Son-in-law (e) Brother

Sol. The relations may be analysed as follows :

Father's wife — Mother; Mother's brother — Uncle; Uncle's son — Cousin.
So, Rohit is Anil's cousin. Hence, the answer is (a).

- Ex. 3.** Pointing towards a person in a photograph, Anjali said, "He is the only son of the father of my sister's brother." How is that person related to Anjali ?
 (a) Mother (b) Father (c) Maternal uncle
 (d) Cousin (e) None of these (Bank P.O. 1994)

Sol. The relations may be analysed as follows :
 Sister's brother — Brother; Brother's father — Father; Father's son — Brother.
 So, the person in the photograph is Anjali's brother.
 Hence, the answer is (e).

- Ex. 4.** Pointing out to a photograph, a man tells his friend, "She is the daughter of the only son of my father's wife." How is the girl in the photograph related to the man ?
 (a) Daughter (b) Cousin (c) Mother (d) Sister (e) Niece

Sol. The relations may be analysed as follows :
 Father's wife — Mother; Mother's only son — Himself.
 So, the girl is man's daughter.
 Hence, the answer is (a).

- Ex. 5.** X introduces Y saying, "He is the husband of the grand daughter of the father of my father." How is Y related to X ?
 (a) Brother (b) Son (c) Brother-in-law (d) Nephew (e) Son-in-law

Sol. The relations may be analysed as follows :
 Father's father — Grandfather; Grandfather's Grand daughter — Sister;
 Sister's husband — Brother-in-law.
 So, Y is X's brother-in-law.
 Hence, the answer is (c).

- Ex. 6.** Pointing out to a lady, Rajan said, "She is the daughter of the woman who is the mother of the husband of my mother." Who is the lady to Rajan ?
 (a) Aunt (b) Grand daughter (c) Daughter (d) Sister (e) Sister-in-law

Sol. The relations may be analysed as follows :
 Mother's husband — Father; Father's mother — Grandmother; Grandmother's daughter — Father's sister; Father's sister — Aunt.
 So, the lady is Rajan's aunt.
 Hence, the answer is (a).

EXERCISE 5A

- Pointing to a man on the stage, Rita said, "He is the brother of the daughter of the wife of my husband." How is the man on the stage related to Rita ?
 (a) Son (b) Husband (c) Cousin (d) Nephew (e) Brother-in-law
- Showing the man receiving the prize, Saroj said, "He is the brother of my uncle's daughter." Who is the man to Saroj ?
 (a) Son (b) Brother-in-law (c) Nephew (d) Uncle (e) Cousin
- Pointing to a man, a woman said, "His mother is the only daughter of my mother." How is the woman related to the man ? (Bank P.O. 1998)
 (a) Mother (b) Daughter (c) Sister (d) Grandmother (e) None of these

4. Pointing to a photograph, a person tells his friend, "She is the grand daughter of the elder brother of my father." How is the girl in the photograph related to his man ?
 (a) Niece (b) Sister (c) Aunt (d) Sister-in-law (e) Maternal aunt
5. Pointing to a photograph, Vipul said, "She is the daughter of my grandfather's only son." How is Vipul related to the girl in the photograph ? (B.S.R.B. 1997)
 (a) Father (b) Brother (c) Cousin (d) Data inadequate (e) None of these
6. A woman introduces a man as the son of the brother of her mother. How is the man related to the woman ?
 (a) Nephew (b) Son (c) Cousin (d) Uncle (e) Grandson
7. Looking at a portrait of a man, Harsh said, "His mother is the wife of my father's son. Brothers and sisters I have none." At whose portrait was Harsh looking ? (M.B.A. 1998)
 (a) His son (b) His cousin (c) His uncle (d) His nephew (e) None of these
8. A man said to a lady, "Your mother's husband's sister is my aunt." How is the lady related to the man ?
 (a) Daughter (b) Grand daughter (c) Mother (d) Sister (e) Aunt
9. If Neena says, "Anita's father Raman is the only son of my father-in-law Mahipal", then how is Bindu, who is the sister of Anita, related to Mahipal ?
 (a) Niece (b) Daughter (c) Wife (d) Daughter-in-law (e) None of these
 (Bank P.O. 1996)
10. Pointing to a girl in the photograph, Amar said, "Her mother's brother is the only son of my mother's father." How is the girl's mother related to Amar ?
 (a) Mother (b) Sister (c) Aunt (d) Grandmother (e) None of these
 (Railways, 1994)
11. A girl introduced a boy as the son of the daughter of the father of her uncle. The boy is girl's
 (a) Brother (b) Son (c) Uncle (d) Son-in-law (e) Nephew
12. If X is the brother of the son of Y's son, how is X related to Y ?
 (a) Son (b) Brother (c) Cousin (d) Grandson (e) Uncle
13. Pointing to a gentleman, Deepak said, "His only brother is the father of my daughter's father." How is the gentleman related to Deepak ?
 (a) Grandfather (b) Father (c) Brother-in-law (d) Uncle (e) None of these
 (Bank P.O. 1997)
14. Introducing a man to her husband, a woman said, "his brother's father is the only son of my grandfather." How is the woman related to his man ?
 (a) Mother (b) Aunt (c) Sister (d) Daughter (e) Grandmother
15. Pointing out to a lady, a girl said, "She is the daughter-in-law of the grandmother of my father's only son." How is the lady related to the girl ?
 (a) Sister-in-law (b) Mother (c) Aunt (d) Mother-in-law (e) Cousin
16. Rita told Mani, "The girl I met yesterday at the beach was the youngest daughter of the brother-in-law of my friend's mother." How is the girl related to Rita's friend ?
 (a) Cousin (b) Daughter (c) Niece (d) Friend (e) Aunt

17. If Kamal says, "Ravi's mother is the only daughter of my mother", how is Kamal related to Ravi ? (S.B.I.P.O. 1994)
(a) Grandfather (b) Father (c) Brother
(d) Cannot be determined (e) None of these
18. Rahul told Anand, 'Yesterday I defeated the only brother of the daughter of my grandmother.' Whom did Rahul defeat ?
(a) Son (b) Father (c) Brother (d) Father-in-law (e) Cousin
19. When Anuj saw Manish, he recalled, "He is the son of the father of my daughter." Who is Manish ?
(a) Brother-in-law (b) Brother (c) Cousin (d) Uncle (e) Nephew
20. Pointing to a photograph, a lady tells Pramod, "I am the only daughter of this lady and her son is your maternal uncle." How is the speaker related to Pramod's father ? (Hotel Management, 1995)
(a) Sister-in-law (b) Wife (c) Either (a) or (b) (d) Neither (a) nor (b)
21. Introducing a man, a woman said, "He is the only son of my mother's mother." How is the woman related to the man ?
(a) Mother (b) Aunt (c) Sister (d) Niece (e) None of these
22. Pointing to a man in a photograph, Asha said, "His mother's only daughter is my mother." How is Asha related to that man ?
(a) Nephew (b) Sister (c) Wife (d) Niece (e) Grand daughter
23. Pointing to a photograph, a woman says, "This man's son's sister is my mother-in-law." How is the woman's husband related to the man in the photograph ?
(a) Grandson (b) Son (c) Son-in-law (d) Nephew (e) None of these (M.B.A. 1994)
24. Introducing a man, a woman said, "His wife is the only daughter of my father." How is that man related to the woman ?
(a) Brother (b) Father-in-law (c) Maternal uncle
(d) Husband (e) None of these
25. Deepak said to Nitin, "That boy playing with the football is the younger of the two brothers of the daughter of my father's wife." How is the boy playing football related to Deepak ?
(a) Son (b) Brother (c) Cousin (d) Nephew (e) Brother-in-law
26. Pointing to the lady on the platform, Manju said, "She is the sister of the father of my mother's son." Who is the lady to Manju ?
(a) Mother (b) Sister (c) Aunt (d) Niece (e) None of these
27. Arun said, "This girl is the wife of the grandson of my mother." Who is Arun to the girl ?
(a) Father (b) Grandfather (c) Husband
(d) Father-in-law (e) None of these
28. Pointing to a man in a photograph, a woman said, "His brother's father is the only son of my grandfather." How is the woman related to the man in the photograph ? (B.S.R.B. 1996)
(a) Mother (b) Aunt (c) Sister (d) Daughter (e) Grandmother
29. Pointing to a person, a man said to a woman, "His mother is the only daughter of your father." How was the woman related to the person ?
(a) Aunt (b) Mother (c) Wife (d) Daughter (e) None of these

30. A man pointing to a photograph says, "The lady in the photograph is my nephew's maternal grandmother." How is the lady in the photograph related to the man's sister who has no other sister? (Hotel Management, 1997)
 (a) Cousin (b) Sister-in-law (c) Mother (d) Mother-in-law
31. Pointing to a lady, a man said, "The son of her only brother is the brother of my wife." How is the lady related to the man?
 (a) Mother's sister (b) Grandmother (c) Mother-in-law
 (d) Sister of father-in-law (e) Maternal aunt
32. Pointing to an old man, Kailash said, "His son is my son's uncle." How is the old man related to Kailash?
 (a) Brother (b) Uncle (c) Father (d) Grandfather (e) None of these

ANSWERS

1. (a) : Wife of husband — Herself; Brother of daughter — Son.
 So, the man is Rita's son.
2. (e) : Brother of uncle's daughter — Uncle's son — Cousin.
 So, the man is Seema's cousin.
3. (a) : Only daughter of my mother — Myself.
 So, the woman is man's mother.
4. (a) : Brother of father — Uncle; Uncle's grand daughter — daughter of uncle's son — daughter of cousin — niece.
5. (b) : My grandfather's only son — My father.
 So, the girl is the daughter of Vipul's father i.e., Vipul is the girl's brother.
6. (c) : Brother of mother — Uncle; Uncle's son — Cousin.
7. (a) : Since Harsh has no brother or sister, so he is his father's only son.
 Now, wife of my father's son — my wife.
 So, Harsh's wife is the man's mother or the man is Harsh's son.
8. (d) : Your mother's husband — Your father; Your father's sister — Your aunt.
 So, lady's aunt is man's aunt and therefore lady is man's sister.
9. (e) : Only son of Neena's father-in-law Mahipal — Neena's husband.
 So, Raman is Neena's husband and Anita and Bindu are his daughters.
 Thus, Bindu is the grand daughter of Mahipal.
10. (c) : Only son of Amar's mother's father — Amar's maternal uncle.
 So, the girl's maternal uncle is Amar's maternal uncle. Thus, the girl's mother is Amar's aunt.
11. (a) : Daughter of uncle's father — Uncle's sister — Mother; Mother's son — Brother.
12. (d) : Son of Y's Son — Grandson; Brother of Y's grandson — Y's grandson.
13. (d) : Father of Deepak's daughter's father — Deepak's father.
 So, the man's brother is Deepak's father or the man is the brother of Deepak's father i.e., Deepak's uncle.
14. (c) : Only son of her grandfather — Her father; man's brother's father — man's father.
 So, man's father is her father i.e., She is the man's sister.
15. (b) : My father's only son — My brother; Grandmother of my brother — My grandmother; Daughter-in-law of my grandmother — My mother.
 So, the lady is girl's mother.
16. (a) : Daughter of brother-in-law — Niece; Mother's niece — Cousin.
 So, the girl is the cousin of Rita's friend.

17. (e) : Only daughter of Kamal's mother — Kamal's sister.
So, Ravi's mother is Kamal's sister or Kamal is the brother of Ravi's mother *i.e.*, Ravi's maternal uncle.
18. (b) : Daughter of grandmother — Aunt; Aunt's only brother — Father.
19. (a) : Anuj's daughter's mother — Anuj's wife ; Anuj's wife's father — Anuj's father-in-law; Father-in-law's son — Anuj's brother-in-law.
So, Manish is Anuj's brother-in-law.
20. (b) : Clearly, the speaker's brother is Pramod's maternal uncle. So, the speaker is Pramod's mother or his father's wife.
21. (d) : My mother's mother — My grandmother; My grandmother's only son — My maternal uncle.
So, the woman is man's niece.
22. (d) : Asha's mother's mother is man's mother *i.e.*, Asha's mother is man's sister or Asha is man's niece.
23. (a) : Man's son's sister — Man's daughter.
So, the man's daughter is the mother of the woman's husband. Thus, the woman's husband is the grandson of the man in the photograph.
24. (d) : Only daughter of my father — Myself. So, the man is woman's husband.
25. (b) : Father's wife — Mother; Mother's daughter — Sister; Sister's younger brother — My younger brother. So, the boy is Deepak's brother.
26. (c) : Manju's mother's son — Manju's brother; Manju's brother's father — Manju's father; Father's sister — Manju's aunt.
27. (d) : Mother's grandson — Son; Son's wife — Daughter-in-law.
28. (c) : Only son of woman's grandfather — Woman's father; Man's brother's father — Man's father. So, the woman is man's sister.
29. (a) : Daughter of your father — Your sister.
So, the person's mother is woman's sister or the woman is person's aunt.
30. (c) : Clearly, the lady is the grandmother of man's sister's son *i.e.*, the mother of the mother of man's sister's son *i.e.*, the mother of man's sister.
So, the lady is man's mother.
31. (d) : Brother of my wife — My brother-in-law; Son of lady's brother is the brother-in-law of the man. So lady's brother is man's father-in-law *i.e.*, the lady is the sister of man's father-in-law.
32. (c) : Kailash's son's uncle — Kailash's brother. So, the old man's son is Kailash's brother *i.e.*, the old man is Kailash's father.

TYPE 2 : RELATION PUZZLE

In this type, mutual blood relations or other informations of more than two persons are mentioned and information about any two is mentioned.

Ex. 1. A and B are brothers. C and D are sisters. A's son is D's brother. How is B related to C ? (M.B.A. 1998)

(a) Father (b) Brother (c) Grandfather (d) Uncle (e) None of these

Sol. Clearly, B is the brother of A; A's son is D's brother. This means D is the daughter of A. Since C and D are sisters, C is also the daughter of A.

So, B is the uncle of C.
Hence, the answer is (d).

Ex. 2. Given that

1. A is the mother of B;
2. C is the son of A;

3. D is the brother of E;

4. E is the daughter of B.

The grandmother of D is

(S.C.R.A. 1994)

(a) A (b) B (c) C (d) D (e) E

Sol. D is the brother of E and E is the daughter of B. This means that D is the son of B.

Also, A is the mother of B.

So, A is the grandmother of D.

Hence, the answer is (a).

Ex. 4. A and B are married couple. X and Y are brothers. X is the brother of A. How is Y related to B ?

(a) Brother-in-Law (b) Brother (c) Son-in-Law
(d) Cousin (e) None of these

Sol. A and B are husband and wife. Since X and Y are brothers, and X is the brother of A, Y is also the brother of A. Thus, Y is the brother-in-law of B. Hence, the answer is (a).

Ex. 5. Read the following information carefully and answer the questions given below :

There are six children playing football namely A, B, C, D, E and F. A and E are brothers. F is the sister of E. C is the only son of A's uncle. B and D are the daughters of the brother of C's father.

1. How is C related to F ?

(a) Cousin (b) Brother (c) Son (d) Uncle (e) None of these

2. How many male players are there ?

(a) One (b) Three (c) Five (d) Six (e) Four

3. How many female players are there ?

(a) Two (b) Three (c) Five (d) One (e) Four

4. How is D related to A ?

(a) Uncle (b) Sister (c) Niece (d) Cousin (e) None of these

Solution :

1. F is E's and hence A's sister. So, C is also the son of F's uncle and is, therefore, F's cousin. So, the answer is (a).
2. As given, A and E are brothers. Hence both are males. F is the sister of E and hence female. C is the son and hence male. B and D are daughters and hence female. Thus, there are three males. So, the answer is (b).
3. Clearly, from the solution of 2, we find that there are three females. So, the answer is (b).
4. Clearly, D's father is the brother of C's father and C's father is A's uncle. So, D's father is also A's uncle. Thus, D is A's cousin. Hence, the answer is (d).

EXERCISE 5B

1. A party consists of grandmother, father, mother, four sons and their wives and one son and two daughters to each of the sons. How many females are there in all ?
(a) 14 (b) 16 (c) 18 (d) 24 (e) None of these

2. Lakshmi and Meena are Rohan's wives. Shalini is Meena's step-daughter. How is Lakshmi related to Shalini ?
 (a) Sister (b) Mother-in-Law (c) Mother
 (d) Step-mother (e) None of these
3. Daya has a brother Anil. Daya is the son of Chandra. Bimal is Chandra's father. In terms of relationship, what is Anil of Bimal ? (C.B.I. 1994)
 (a) Son (b) Grandson (c) Brother (d) Grandfather
4. Rahul's mother is the only daughter of Monika's father. How is Monika's husband related to Rahul ? (Bank P.O. 1994)
 (a) Uncle (b) Father (c) Grandfather
 (d) Brother (e) Data inadequate
5. If (i) M is brother of N; (ii) B is brother of N; and (iii) M is brother of D, then which of the following statements is definitely true ? (B.S.R.B. 1995)
 (a) N is brother of B (b) N is brother of D (c) M is brother of B
 (d) D is brother of M (e) None of these
6. Deepak is brother of Ravi. Rekha is sister of Atul. Ravi is son of Rekha. How is Deepak related to Rekha ? (C.B.I. 1997)
 (a) Son (b) Brother (c) Nephew (d) Father
7. A is B's sister. C is B's mother. D is C's father. E is D's mother. Then, how is A related to D ? (Assistant Grade, 1996)
 (a) Grandmother (b) Grandfather (c) Daughter (d) Grand daughter
8. Given that :
 1. A is brother of B.
 2. C is father of A.
 3. D is brother of E.
 4. E is daughter of B.
 Then, uncle of D is (S.C.R.A. 1993)
 (a) A (b) B (c) C (d) E
9. Q is the brother of R; P is the sister of Q; T is the brother of S; S is the daughter of R. Who are the cousins of Q ?
 (a) R and P (b) P and T (c) Q and T
 (d) S and T (e) None of these
10. E is the son of A. D is the son of B. E is married to C. C is B's daughter. How is D related to E ?
 (a) Brother (b) Uncle (c) Father-in-Law
 (d) Brother-in-Law (e) None of these
11. A is father of C and D is son of B. E is brother of A. If C is sister of D, how is B related to E ? (Assistant Grade, 1997)
 (a) Daughter (b) Brother-in-Law (c) Husband (d) Sister-in-Law
12. Q's mother is sister of P and daughter of M. S is daughter of P and sister of T. How is M related to T ? (Bank P.O. 1995)
 (a) Grandmother (b) Father (c) Grandfather
 (d) Grandfather or Grandmother (e) None of these

Directions (Questions 13 to 15) : Read the following information and answer the questions given below :

A is the son of B. C, B's sister has a son D and a daughter E. F is the maternal uncle of D.

13. How is A related to D ?
 (a) Cousin (b) Nephew (c) Uncle (d) Brother
14. How is E related to F ?
 (a) Sister (b) Daughter (c) Niece (d) Wife
15. How many nephews does F have ?
 (a) Nil (b) One (c) Two (d) Three

Directions (Questions 16-17) : Read the following information and answer the questions given below it : (S.S.C. 1993)

A is the father of C. But C is not his son.
 E is the daughter of C. F is the spouse of A.
 B is the brother of C. D is the son of B.
 G is the spouse of B. H is the father of G.

16. Who is the grandmother of D ?
 (a) A (b) C (c) F (d) H
17. Who is the son of F ?
 (a) B (b) C (c) D (d) E
18. C is A's father's nephew. D is A's cousin but not the brother of C. How is D related to C ?
 (a) Father (b) Sister (c) Mother (d) Aunt
19. P is the son of Q while Q and R are the sisters to one another. T is the mother of R. If S is the son of T, which of the following statements is correct ?
 (a) T is the brother of Q. (b) S is the cousin of P.
 (c) Q and S are sisters. (d) S is the maternal uncle of P.
 (e) R is the grandfather of P.
20. A is the brother of B. B is the brother of C. D is the father of A. Based on these three statements, which of the following statements cannot be definitely true ?
 (a) B is the brother of A. (b) B is the son of D.
 (c) A is the brother of C. (d) C is the brother of A.
 (e) A, B and C are D's children. (B.S.R.B. 1997)
21. A is father of X ; B is mother of Y. The sister of X and Z is Y. Which of the following statements is definitely not true ?
 (a) B is the mother of Z. (b) X is the sister of Z. (c) Y is the son of A.
 (d) B has one daughter. (e) B is the wife of A.
22. Rajan is the brother of Sachin and Manick is the father of Rajan. Jagat is the brother of Priya and Priya is the daughter of Sachin. Who is the uncle of Jagat ?
 (a) Rajan (b) Sachin (c) Manick (d) None of these
 (Transmission Executives' 1994)
23. Neelam, who is Deepak's daughter, says to Deepika, "Your mother Rekha is the younger sister of my father who is the third child of Ramlal." How is Ramlal related to Deepika ?
 (a) Uncle (b) Father (c) Grandfather (d) Father-in-Law

24. P is the brother of Q and R. S is R's mother. T is P's father. Which of the following statements cannot be definitely true ?
 (a) T is Q's father. (b) S is P's mother. (c) P is S's son.
 (d) T is S's husband. (e) Q is T's son.
25. P is the brother of D. X is the sister of P. A is the brother of F. F is the daughter of D. M is the father of X. Who is the uncle of A ?
 (a) X (b) P (c) F (d) M
26. K is the brother of N and X. Y is the mother of N and Z is the father of K. Which of the following statements is not definitely true ?
 (a) K is the son of Z. (b) Y is the wife of Z. (c) K is the son of Y.
 (d) K is the father of X. (e) N is the brother of X.
27. A woman walking with a boy meets another woman and on being asked about her relationship with the boy, she says, "My maternal uncle and his maternal uncle's maternal uncle are brothers." How is the boy related to the woman ?
 (a) Nephew (b) Brother-in-Law (c) Son (d) Grandson (e) Husband

Directions (Questions 28 to 31) : Read the information given below and answer the questions that follow : (B.S.R.B. 1996)

- (i) In a family of six persons A, B, C, D, E and F, there are two married couples.
 (ii) D is grandmother of A and mother of B.
 (iii) C is wife of B and mother of F.
 (iv) F is the grand daughter of E.
28. What is C to A ?
 (a) Daughter (b) Grandmother (c) Mother
 (d) Cannot be determined (e) None of these
29. How many male members are there in the family ?
 (a) Two (b) Three (c) Four
 (d) Cannot be determined (e) None of these
30. Which of the following is true ?
 (a) A is brother of F. (b) A is sister of F. (c) D has two grandsons.
 (d) B has two daughters. (e) None of these.
31. Who among the following is one of the couples ?
 (a) CD (b) DE (c) EB
 (d) Cannot be determined (e) None of these

Directions (Questions 32 to 37) : Study the following information carefully and answer the questions given below it :

All the six members of a family A, B, C, D, E and F are travelling together. B is the son of C but C is not the mother of B. A and C are a married couple. E is the brother of C. D is the daughter of A. F is the brother of B.

32. How many male members are there in the family ?
 (a) 1 (b) 2 (c) 3 (d) 4
33. Who is the mother of B ?
 (a) D (b) F (c) E (d) A
34. How many children does A have ?
 (a) One (b) Two (c) Three (d) Four

35. Who is the wife of E ?
 (a) A (b) F (c) B (d) Can't be determined
36. Which of the following is a pair of females ?
 (a) AE (b) BD (c) DF (d) AD
37. How is E related to D ?
 (a) Father (b) Brother (c) Uncle (d) Can't be determined

Directions (Questions 38 to 42) : Read the information given below and answer the questions that follow : (Bank P.O. 1995)

- I. A, B, C, D, E and F are six members of a family.
 II. One couple has parents and their children in the family.
 III. A is the son of C and E is the daughter of A.
 IV. D is the daughter of F who is the mother of E.

38. Who are the male members in the family ?
 (a) A and C (b) C and F (c) A, B and D
 (d) Cannot be determined (e) None of these
39. Which of the following pairs is the parents of the children ?
 (a) BC (b) CF (c) BF
 (d) Cannot be determined (e) None of these
40. Which of the following pairs is the parents of the couple ?
 (a) AB (b) BC (c) AF (d) CF (e) None of these
41. How many female members are there in the family ?
 (a) Two (b) Three (c) Four
 (d) Can't be determined (e) None of these
42. What relationship do D and E bear to each other ?
 (a) Sister and Brother (b) Mother and Son
 (c) Grandmother and Grand daughter (d) Sister (e) None of these
43. A, B, C, D, E, F and G are members of a family consisting of four adults and three children, two of whom, F and G are girls. A and D are brothers and A is a doctor. E is an engineer married to one of the brothers and has two children. B is married to D and G is their child. Who is C ? (I.A.S. 1998)
 (a) A's son (b) E's daughter (c) F's father (d) G's brother

Directions (Questions 44 to 48) : Read the following information carefully and answer the questions given below it :

In a family, there are six members A, B, C, D, E and F. A and B are a married couple, A being the male member. D is the only son of C, who is the brother of A. E is the sister of D. B is the daughter-in-law of F, whose husband has died.

44. How is F related to A ?
 (a) Mother (b) Sister-in-Law (c) Sister
 (d) Mother-in-Law (e) None of these
45. How is E related to C ?
 (a) Sister (b) Daughter (c) Cousin (d) Aunt (e) Mother
46. Who is C to B ?
 (a) Brother (b) Brother-in-Law (c) Nephew
 (d) Son-in-Law (e) None of these

47. How many male members are there in the family ?
 (a) One (b) Two (c) Three (d) Four (e) Five
48. How is F related to C ?
 (a) Mother-in-Law (b) Sister-in-Law (c) Mother (d) Aunt (e) Sister
49. Shobha is the niece of Ashish. Ashish's mother is Priya. Kamla is Priya's mother. Kamla's husband is Hari. Krishna is the mother-in-law of Hari. How is Shobha related to Hari ?
 (Assistant Grade, 1996)
 (a) Daughter (b) Great granddaughter (c) Grandniece
 (d) Great grandson's daughter

Directions (Questions 50 to 54) : Study the following information carefully and answer the questions given below it : (Railways, 1998)

There are six persons A, B, C, D, E and F. C is the sister of F. B is the brother of E's husband. D is the father of A and grandfather of F. There are two fathers, three brothers and a mother in the group.

50. Who is the mother ?
 (a) A (b) B (c) D (d) E
51. Who is E's husband ?
 (a) B (b) C (c) A (d) F
52. How many male members are there in the group ?
 (a) One (b) Two (c) Three (d) Four
53. How is F related to E ?
 (a) Uncle (b) Husband (c) Son (d) Daughter
54. Which of the following is a group of brothers ?
 (a) ABF (b) ABD (c) BFC (d) BDF

Directions (Questions 55 to 60) : Read the following information carefully and answer the questions given below it :

A family consists of six members P, Q, R, X, Y and Z. Q is the son of R but R is not mother of Q. P and R are a married couple. Y is the brother of R. X is the daughter of P. Z is the brother of P.

55. Who is the brother-in-law of R ?
 (a) P (b) Z (c) Y (d) X
56. Who is the father of Q ?
 (a) R (b) P (c) Z (d) None of these
57. How many children does P have ?
 (a) One (b) Two (c) Three (d) Four
58. How many female members are there in the family ?
 (a) One (b) Two (c) Three (d) Four
59. How is Q related to X ?
 (a) Husband (b) Father (c) Brother (d) Uncle
60. Which is a pair of brothers ?
 (a) P and X (b) P and Z (c) Q and X (d) R and Y

Directions (Questions 61 to 65) : Study the information given below and answer the questions that follow :

There is a family of six persons A, B, C, D, E and F. They are Lawyer, Doctor, Teacher, Salesman, Engineer and Accountant. There are two married couples in the

family. D, the Salesman is married to the Lady Teacher. The Doctor is married to the Lawyer. F, the Accountant is the son of B and brother of E. C, the Lawyer is the daughter-in-law of A. E is the unmarried Engineer. A is the grandmother of F.

61. How is E related to F ?
 (a) Brother (b) Sister (c) Cousin
 (d) Cannot be determined (e) None of these
62. What is the profession of B ?
 (a) Teacher (b) Doctor (c) Lawyer
 (d) Cannot be determined (e) None of these
63. What is the profession of A ?
 (a) Lawyer (b) Teacher (c) Doctor
 (d) Cannot be determined (e) None of these
64. Which of the following is one of the couples ?
 (a) F and D (b) D and B (c) E and A
 (d) A and C (e) None of these
65. How is D related to F ?
 (a) Grandfather (b) Father (c) Uncle
 (d) Brother (e) None of these

Directions (Questions 66 to 70) : Read the following information carefully and answer the questions below :

A family consists of six members P, Q, R, S, T and U. There are two married couples. Q is a doctor and the father of T. U is grandfather of R and is a contractor. S is grandmother of T and is a housewife. There is one doctor, one contractor, one nurse, one housewife and two students in the family.

66. Who is the husband of P ?
 (a) R (b) U (c) Q (d) S (e) T
67. Who is the sister of T ?
 (a) R (b) U (c) T
 (d) Information insufficient (e) None of these
68. What is the profession of P ?
 (a) Doctor (b) Nurse (c) Doctor or Nurse
 (d) Housewife (e) None of these
69. Which of the following are two married couples ?
 (a) US, QT (b) US, QP (c) TS, RU (d) US, RP (e) None of these
70. Which of the following is definitely a group of male members ?
 (a) QU (b) QUT (c) QUP (d) UT (e) None of these

Directions (Questions 71 to 73) : Read the following information carefully and answer the questions that follow : (S.B.I.P.O. 1995)

In a village of Bastar district in Madhya Pradesh, only two types of people live who belong to a tribal class. The first type is known as class A, while the other is known as class B. In that village, there is no other type of person except these two. The activities of both types of people are governed by perfectly patterned norms of social behaviour. Each person of the tribe has to obey the norms. They are rigid about this.

As far as marriage is concerned, the following norms are to be followed

- (A) The people of class A cannot marry any other member of their own class, though they can marry members of class B.
- (B) After being married, each male member ceases to be a member of that class in which he was born but automatically, he becomes the member of the other class to which his wife belongs.
- (C) As far as females are concerned, they remain the members of their own class after being married.
- (D) On his birth, the child automatically becomes the member of his mother's class.
- (E) When any male member becomes widower or divorcee, then he again belongs to the group in which he was born.
- (F) Nobody can marry more than one person according to social laws.
71. Any class B female can have
 (P) Grandfather born in class A
 (Q) Grandmother born in class A
 (a) Only (P) can be true (b) Only (Q) can be true
 (c) Either (P) or (Q) can be true (d) Neither (P) and (Q) can be true
 (e) Both (P) and (Q) can be true
72. One boy, who was born in class B (boy and his wife both can have married and unmarried brothers),
 (a) can have his daughter in class B (b) can have a son-in-law born in class A
 (c) can have his uncle from any class (d) can have a divorced son in class B
 (e) can have a daughter-in-law born in class A.
73. Which of the following marriages is not permissible according to the social laws ?
 (a) Any girl of class B marries his mother's brother.
 (b) Any widower marries his wife's sister.
 (c) Any boy of class B marries his father's sister.
 (d) Any widower born in class A marries his brother's widow.
 (e) Any widow marries the former divorced husband of her daughter.

ANSWERS

1. (a) : Grandmother is one female, mother is another, wives of four sons are the four females and two daughters of all four sons are eight females.
 So, in all there are $1 + 1 + 4 + 8 = 14$ females.
2. (c) : Shalini is Meena's step-daughter means Shalini is the daughter of the other wife of Rohan. So, Shalini is the daughter of Lakshmi or Lakshmi is the mother of Shalini.
3. (b) : Anil is the brother of Daya and Daya is the son of Chandra. So, Anil is the son of Chandra. Now, Bimal is the father of Chandra.
 So, Anil is the grandson of Bimal.
4. (b) : Clearly, the only daughter of Monika's father is Monika herself. So, Rahul's mother is Monika. Thus, Monika's husband is the father of Rahul.
5. (c) : M is the brother of N and B is the brother of N.
 So, M is the brother of B.
6. (a) : Deepak is the son of Ravi, who is the son of Rekha. Thus, Deepak is the son of Rekha.
7. (d) : A is the sister of B and B is the daughter of C. So, A is the daughter of C. Also, D is the father of C. So, A is the granddaughter of D.

8. (a) : Clearly, D is the brother of E and E is the daughter of B. So, D is the son of B. Also, A is the brother of B. So, A is the uncle of D.
9. (d) : T is the brother of S, who is the daughter of R. So, T and S are the children of R. Now, Q is the brother of R. So, T and S are the cousins of Q.
10. (d) : C is B's daughter and D is B's son. So, D is the brother of C. E is a male married to C. So, E is the husband of C, whose brother is D. So, D is the brother-in-law of E.
11. (a) : A is father of C and C is sister of D. So, A is father of D. But D is son of B. So, B is the mother of D and wife of A. Also, E is the brother of A. So, B is the sister-in-law of E.
12. (a) : S is daughter of P and sister of T. So, T is daughter of P. Now, the sister of P is the daughter of M. This means that P is also the daughter of M. Clearly, T is the granddaughter of M. So, M is the Grandfather or Grandmother of T.
13. (a) : A is the son of B and D is the son of the sister of B. So, A is the cousin of D.
14. (c) : E is the daughter of C and D is the son of C. So, F, who is the maternal uncle of D, is also the maternal uncle of E. Thus, E is the niece of F.
15. (c) : Clearly, F is the maternal uncle of D means F is the brother of D's mother i.e., F is the brother of C. C is the sister of B. So, F is the brother of B who is A's mother. Thus, F is the maternal uncle of A. So, A and D are the nephews of F i.e., F has two nephews.
16. (c) : D is the son of B, B is the brother of C and A is the father of C. This means that B is the father of D and A is the father of B. So, A is the grandfather of D. Now, F is the spouse of A. So, F is the grandmother of D.
17. (a) : As explained above, B is the son of A and F is the spouse of A. So, B is the son of F.
18. (b) : C is A's father's nephew means C is the son of A's father's brother i.e., C is the cousin of A. D is also A's cousin. So, D must be real brother or sister of C. But D is not brother of C. So, D must be sister of C.
19. (d) : Q and R are sisters. So, T is the mother of R means T is the mother of Q and R. S is the son of T means S is the brother of Q. Thus; P is the son of Q means S is the maternal uncle of P.
20. (d) : A is the brother of B and B is the brother of C. So, C may be the brother or sister of A.
21. (c) : A is the father of X and Y is the sister of X. So, Y is the daughter of A.
22. (a) : Jagat is the brother of Priya and Priya is the daughter of Sachin. So, Jagat is the son of Sachin. Now, Rajan is the brother of Sachin. Thus, Rajan is the uncle of Jagat.
23. (c) : Neelam's father is Deepak. Deepika's mother is Rekha. Deepak is the third child of Ramlal. So, Deepak's younger sister Rekha is the daughter of Ramlal. So, Ramlal is father of Rekha and grandfather of her daughter Deepika.
24. (e) : P, Q, R are children of same parents. So, S who is R's mother and T, who is P's father will be mother and father of all three. However, it is not mentioned whether Q is male or female. So, (e) cannot be definitely true.
25. (b) : A is the brother of F who is the daughter of D. So, A is the son of D. P is the brother of D. So, P is the uncle of A.
26. (e) : K is the brother of N and X. So, Y, who is the mother of N and Z, who is the father of K, will be mother and father of all three. However, it is not mentioned whether N is male or female.
So, the statement (e) cannot be definitely true.
27. (c) : Boy's maternal uncle will be brother of boy's mother. Maternal uncle of mother's brother and maternal uncle of lady are brother means lady is sister of mother's brother i.e., lady is the mother of the boy. So, the boy is woman's son.
28. (c) : C is the wife of B and D is mother of B. So, C is the grandmother of A. So, C is the mother of A.

29. (d) : Clearly, the sex of A cannot be determined.
 30. (e) : The sex of A is not known. So, neither (a) nor (b) is definitely true. Clearly, D is the grandmother of A and F.
 31. (b) : C is wife of B. So, one couple is BC. Now, D is grandmother of A. B is the son of D and his wife C is the mother of F. So, D is also the grandmother of F. But F is the granddaughter of E. So, E is the grandfather of F and the husband of D. Thus, DE is another couple.

Questions 32 to 37

B is the son of C but C is not the mother of B means C is the father of B. A is married to C means A is the mother of B. F is brother of B means F is son of A and C. D is daughter of A means D is daughter of A and C.

32. (d) : A is the mother and hence female. B is the son and hence male. C is the husband and hence male. D is the daughter and hence female. E is the brother and hence male. F is the son and hence male. So, there are four males.
 33. (d) : Clearly, A is the mother of B.
 34. (c) : A has son B, son F and daughter D i.e. three children.
 35. (d) : Clearly, from the data available, the wife of E cannot be determined.
 36. (d) : Clearly, the females are only the mother A and the daughter D.
 37. (c) : E is the brother of C who is the father of D. So, E is the uncle of D.

Questions 38 to 42

E is the daughter of A and F is the mother of E. So, A is the father of E and hence the husband of F. Now, D is the daughter of F. So, D and E are the daughters of A and F.

Also, A is the son of C. Now, only B remains. Thus, B and C are the parents of A.

38. (d) : The sex of B and C cannot be determined.
 39. (e) : Clearly, A and F are the parents of the children D and E.
 40. (b) : Clearly, B and C are the parents of the couple.
 41. (c) : Clearly, the females in the family are : either B or C, F, D and E.
 42. (d) : Clearly, D and E are sisters.
 43. (a) : E is married to A or D. But B is married to D. Thus, E is married to A. Thus, A, B, D, E are the four adults and C, F, G are the three children in the family.
 B and D have a child G.
 A and E have two children. They are C and F.
 Now, only F and G are girls. So, C is a boy. Thus, C is A's or E's son.

Questions 44 to 48

A is a male and married to B. So, A is the husband and B is the wife. C is the brother of A. D is the son of C. E, who is the sister of D will be the daughter of C. B is the daughter-in-law of F whose husband has died means F is the mother of A.

44. (a) : Clearly, F is the mother of A.
 45. (b) : Clearly, E is the daughter of C.
 46. (b) : C is the brother of A who is the husband of B. So, C is the brother-in-law of B.
 47. (c) : A is a male, B, the wife, is female. C, the brother, is male. D, the son, is male. E, the sister, is female. F, the mother, is a female. So, there are three males.
 48. (c) : F is the mother of A and C is the brother of A. So, F is the mother of C.
 49. (b) : Shobha is the niece of Ashish means Ashish is the uncle of Shobha. Now, Priya is Ashish's mother. So, Priya is the grandmother of Shobha. Hari is Priya's father. So, Shobha is the great granddaughter of Hari.

Questions 50 to 54

D is father of A and grandfather of F. So, A is father of F. Thus, D and A are the two fathers. C is the sister of F. So, C is the daughter of A. Since there is only one mother, it is evident that E is the wife of A and hence the mother of C and F. So, B is brother of A. There are three brothers. So, F is the brother of C.

50. (d) : Clearly, E is the mother.

51. (c) : Clearly, A is E's husband.

52. (d) : A, the father, is male. B, the brother, is male. C, the sister, is female. D, the grandfather, is male. E, the mother, is female. F, the brother, is male. So, there are four males.

53. (c) : Clearly, F is the son of A.

54. (a) : Clearly, B and A are brothers. F is the brother of C. So, three brothers are A, B, F.

Questions 55 to 66

Q is the son of R but R is not the mother. So, R is the father of Q. P is married to R. So, P is the wife of R and the mother of Q. X is the daughter of P and hence of R and so she is the sister of Q. Y is the brother of R and Z is the brother of P.

55. (b) : R is the husband of P and Z is the brother of P. So, Z is the brother-in-law of R.

56. (a) : R is the father of Q.

57. (b) : Clearly, Q is the son of P and X is the daughter of P. So, P has two children.

58. (b) : There are two females only — mother P and daughter X.

59. (c) : X is the sister of Q who is a male. So, Q is brother of X.

60. (d) : Clearly, Y is brother of R who is a male. So, Y and R are a pair of brothers.

Questions 61 to 65

C is the daughter-in-law of A who is the grandmother of F means C is the mother of F. But F is the son of B. So, B is C's husband. But C, the lawyer, is married to the Doctor. So, B is the Doctor. F, the Accountant, will be the son of B and C. E is the unmarried Engineer. So, the other married couple can be that of grandmother of F i.e. A and D. But D, the Salesman, is married to the Lady Teacher. So, D, the Salesman, is the grandfather of F, father of B and the husband of A, the Lady Teacher.

61. (d) : Clearly, from the given data, the relation between E and F cannot be determined.

62. (b) : Clearly, B is the Doctor.

63. (b) : A is the Lady Teacher.

64. (e) : The two couples are C and B; and D and A which is none among the choices.

65. (a) : D is the grandfather of F.

Questions 66 to 70

Q, the Doctor, is the father of T. S, the Housewife, is the grandmother of T and hence the mother of Q. Since there are only two married couples one being that of Q, the grandfather of R i.e. U must be married to S. Thus, R and T will be both children of Q and these must be the students. So, P, who remains, shall be the wife of Q and she alone can be the nurse. Thus, U must be the contractor.

66. (c) : The husband of P will be Q.

67. (a) : Clearly, R and T are children of same parents. So, R will be the sister of T.

68. (b) : P is the nurse.

69. (b) : The two married couples are Q, P and U, S.

70. (a) : Clearly, for definite the males are Q, the father and U, the grandfather.

71. (b) : The mother of class B female belongs to class B. So, her father was born in class A. Thus, her father's mother belonged to class A, and father's father was born in class B. So, the Grandfather belongs to class B and Grandmother belongs to class A.

72. (c) : The boy born in class B will marry a girl of class A. So, the daughter will belong to class A. Thus, (a) is false.
 Since the boy's daughter will belong to class A, she would marry a boy of class B and so the son-in-law would be from class B. So, (b) is false.
 The boy, born in class B, will have mother born in class B and father born in class A. So, his uncle (i.e. mother's brother or father's brother) can be from class A or B. So, (c) is true.
73. (a) : A girl of class B will have mother born in class B and so the mother's brother will also belong to class B. Since people of any class cannot marry the members of their own class, so the condition in (a) is not permissible.

TYPE 3 : CODED RELATIONS

In such questions, the relationships are represented by certain codes or symbols such as +, -, ×, ÷, *, □ etc. Then relationships between certain persons, given in the form of these codes, are to be analysed.

Ex. 1. If $A + B$ means *A is the sister of B*; $A - B$ means *A is the brother of B*; $A \times B$ means *A is the daughter of B*, which of the following shows the relation that *E is the maternal uncle of D* ?

- (a) $D + F \times E$ (b) $D - F \times E$ (c) $D \times F + E$
 (d) $D \times F - E$ (e) None of these.

Sol. Clearly, E is the maternal uncle of D means D is the daughter of the sister (say F) of E i.e. $D \times F + E$.
 Hence, the answer is (c).

Ex. 2. Read the following information carefully and answer the questions that follow :

$A + B$ means *A is the son of B*; $A - B$ means *A is the wife of B*; $A \times B$ means *A is the brother of B*; $A \div B$ means *A is the mother of B* and $A = B$ means *A is the sister of B*.

- What does $P + R - Q$ mean ?
 (a) Q is the father of P . (b) Q is the son of P .
 (c) Q is the uncle of P . (d) Q is the brother of P .
- What does $P \times R \div Q$ mean ?
 (a) P is the brother of R . (b) P is the father of Q .
 (c) P is the uncle of Q . (d) P is the nephew of Q .
- What does $P = R + Q$ mean ?
 (a) P is the aunt of Q . (b) P is the daughter of Q .
 (c) P is the niece of Q . (d) P is the sister of Q .
- What does $P = R \div Q$ mean ?
 (a) P is the aunt of Q . (b) P is the sister of Q .
 (c) Q is the niece of P . (d) Q is the daughter of P .

Solution :

- Clearly, $P + R - Q$ means P is the son of R who is the wife of Q i.e. Q is the father of P . Hence, the answer is (a).
- $P \times R \div Q$ means P is the brother of R who is the mother of Q i.e. P is the uncle of Q . So, the answer is (c).

3. $P = R + Q$ means P is the sister of R who is the son of Q i.e. P is the daughter of Q .
So, the answer is (b).
4. $P = R + Q$ means P is the sister of R who is the mother of Q i.e. P is the aunt of Q .
So, the answer is (a).

EXERCISE 5C

1. $P + Q$ means P is the brother of Q ; $P - Q$ means P is the mother of Q and $P \times Q$ means P is the sister of Q . Which of the following means M is the maternal uncle of R ?
- (a) $M + K + R$ (b) $M - R + K$ (c) $M + K - R$
(d) $M + K \times R$ (e) None of these
2. If $A + B$ means A is the brother of B ; $A \div B$ means A is the father of B and $A \times B$ means A is the sister of B , which of the following means M is the uncle of P ?
(S.B.L.P.O. 1997)
- (a) $N \times P + M$ (b) $M + S + R + P$ (c) $M + N \times P$
(d) $M + K + T \times P$ (e) None of these.

Directions (Questions 3 to 5) : Read the following information and answer the questions given below it :

$A + B$ means A is the daughter of B ; $A \times B$ means A is the son of B and $A - B$ means A is the wife of B .

3. If $P \times Q - S$, which of the following is true ?
- (a) S is wife of Q (b) S is father of P (c) P is daughter of Q
(d) Q is father of P (e) None of these
4. If $T - S \times B - M$, which of the following is not true ?
- (a) B is mother of S (b) M is husband of B (c) T is wife of S
(d) S is daughter of B (e) S is son of B
5. If $Z \times T - S \times U + P$, what is U to Z .
- (a) Mother (b) Grandmother (c) Father
(d) Can't be determined (e) None of these.
6. $P \times Q$ means P is the sister of Q ; $P + Q$ means P is the father of Q ; $P - Q$ means P is the mother of Q . Which of the following means S is the aunt of T ?
(B.S.R.B. 1997)
- (a) $T \times M + S$ (b) $S + T \times M$ (c) $S \times M + T$
(d) $S \times M + R - T$ (e) None of these
7. If $A + B$ means A is the son of B ; $A - B$ means A is the husband of B ; $A \times B$ means A is the sister of B , then which of the following shows the relation Q is the maternal uncle of P ?
- (a) $P + B - R \times Q$ (b) $P - B + R \times Q$ (c) $P + B \times R - Q$
(d) $P \times B - R + Q$ (e) None of these
8. If $A + B$ means A is the mother of B ; $A \div B$ means A is the brother of B ; $A \times B$ means A is the son of B and $A - B$ means A is the daughter of B , which of the following means C is the niece of D ?
- (a) $D - C$ (b) $D \times P - C$ (c) $C - P + D$ (d) $P + D + C$ (e) $D - P + C$
9. If $X \circ Y$ means X is the wife of Y ; $X + Y$ means X is the son of Y and $X \square Y$ means X is the sister of Y , which of the following would mean that A is the daughter of B ?

- (a) $A * C \square D \circ B$ (b) $A \circ C * D \square B$ (c) $A \square C \circ D * B$
 (d) $A \square C * D \circ B$ (e) None of these

Directions (Questions 10 to 12) : Study the information given below and answer the questions that follow :

$A + B$ means A is the daughter of B ; $A - B$ means A is the husband of B ; $A \times B$ means A is the brother of B .

10. If $P + Q - R$, which of the following is true ?
 (a) R is the mother of P (b) R is the sister-in-law of P
 (c) R is the aunt of P (d) R is the mother-in-law of P
11. If $P \times Q + R$, which of the following is true ?
 (a) P is the brother of R (b) P is the uncle of R
 (c) P is the son of R (d) P is the father of R
12. If $P + Q \times R$, which of the following is true ?
 (a) P is the niece of R (b) P is the daughter of R
 (c) P is the cousin of R (d) P is the daughter-in-law of R
13. If (A) $P + Q$ means P is the brother of Q ;
 (B) $P \times Q$ means P is the father of Q ;
 (C) $P - Q$ means P is the sister of Q ,
 which of the following represents S is the niece of T ?
 (a) $T \times M + S - K$ (b) $K - S \times M + T$ (c) $T + M \times S - K$
 (d) $T \times S + M - K$ (e) None of these (Bank P.O. 1995)
14. To find out the answer to the above question, which of the statements can be dispensed with ?
 (a) A only (b) B only (c) C only (d) B or C only (e) All are necessary
15. If $P + Q$ means P is the husband of Q ; $P + Q$ means P is the sister of Q and $P \times Q$ means P is the son of Q , which of the following shows A is the daughter of B ?
 (a) $C \times B + A$ (b) $B + C \times A$ (c) $D \times B + C + A$
 (d) $A \div D \times B$ (e) None of these (Bank P.O. 1996)
16. $X - Z$ means X is the mother of Z ; $X \times Z$ means X is the father of Z and $X + Z$ means X is the daughter of Z . Now, if $M - N \times T + Q$, then which of the following is not true ?
 (a) T is N 's daughter (b) N is wife of Q (c) M is mother-in-law of Q
 (d) Q is wife of N (e) T is granddaughter of M (B.S.R.B. 1998)

Directions (Questions 17 to 24) : Read the following information carefully and answer the questions given below it :

$A + B$ means A is the father of B ; $A - B$ means A is the wife of B ; $A \times B$ means A is the brother of B ; $A \div B$ means A is the daughter of B .

17. If $P + R + S + Q$, which of the following is true ?
 (a) P is the daughter of Q (b) Q is the aunt of P
 (c) P is the aunt of Q (d) P is the mother of Q
18. If $P - R + Q$, which of the following statements is true ?
 (a) P is the mother of Q (b) Q is the daughter of P
 (c) P is the aunt of Q (d) P is the sister of Q

19. If $P \times R + Q$, which of the following statements is true ?
 (a) P is the uncle of Q (b) P is the father of Q
 (c) P is the brother of Q (d) P is the son of Q
20. If $P \times R - Q$, which of the following is true ?
 (a) P is the brother-in-law of Q (b) P is the brother of Q
 (c) P is the uncle of Q (d) P is the father of Q
21. If $P + R + Q$, which of the following is true ?
 (a) P is the brother Q (b) P is the son of Q
 (c) P is the husband of Q (d) P is the father of Q
22. If $P \div R + Q$, which of the following is true ?
 (a) P is the father of Q (b) P is the brother of Q
 (c) P is the mother of Q (d) P is the sister of Q
23. If $P \times R + Q$, which of the following is true ?
 (a) P is the uncle of Q (b) P is the father of Q
 (c) P is the brother-in-law of Q (d) P is the grandfather of Q
24. If $P - R \times Q$, which of the following is true ?
 (a) P is the sister of Q (b) Q is the husband of P
 (c) P is the sister-in-law of Q (d) Q is the son of P

ANSWERS

1. (c) : M is the maternal uncle of R means M is the brother of the mother (say K) of R i.e. $M + K - R$.
2. (d) : M is the uncle of P means M is the brother of the father (say K) of the sister (say T) of P i.e. $M + K + T \times P$.
3. (b) : $P \times Q - S$ means P is the son of Q who is the wife of S i.e. P is the son of S or S is the father of P.
4. (d) : $T - S \times B - M$ means T is the wife of S who is the son of B who is the wife of M i.e. T is the wife of the son of M (father) i.e. T is the daughter-in-law of M. But as this is not given in the choice, so the fact in (d) derived from $S \times B$ is true.
5. (b) : $Z \times T - S \times U$ means Z is the son of T who is the wife of S who is the son of U i.e. Z is the son of S who is the son of U i.e. Z is the grandson of U or U is the grandmother or grandfather of Z. From the choice, (b) is true.
6. (c) : S is the aunt of T means S is the sister of the father (say M) of T i.e. $S \times M + T$.
7. (a) : Q is the maternal uncle of P means P is the son of the sister of Q i.e. P is the son of the husband (say B) of the sister (say R) of Q i.e. $(P + B - R \times Q)$.
8. (c) : C is the niece of D means C is the daughter of the brother (say P) of D i.e. $C - P + D$.
9. (d) : A is the daughter of B means A is the sister of the son (say C) of the wife (say D) of B i.e. $A \square C + D \circ B$.
10. (a) : $P + Q - R$ means P is the daughter of Q who is the husband of R i.e. R is P's mother.
11. (c) : $P \times Q + R$ means P is the brother of Q who is the daughter of R i.e. P is the son of R.
12. (a) : $P + Q \times R$ means P is the daughter of Q who is the brother of R i.e. P is the niece of R.
13. (c) : S is the niece of T means T is the brother of the father (say M) of S i.e. $T + M \times S$.
14. (c) : Clearly, statement (c) can be dispensed with while answering the above question.
15. (d) : A is the daughter of B means A is the sister of the son (say D) of B i.e. $A + D \times B$.

16. (d) : $M - N \times T + Q$ means M is the mother of N who is the father of T who is the daughter of Q i.e. M is the grandmother of the daughter of Q i.e. M is the mother of Q. Since this is not given in the choices, so the fact in (d) derived from $N \times T + Q$ is true.
17. (c) : $P \div R + S + Q$ means P is the daughter of R who is the father of S who is the father of Q i.e. P is the sister of the father (S) of Q i.e. P is the aunt of Q.
18. (a) : $P - R + Q$ means P is the wife of R who is the father of Q i.e. P is the mother of Q.
19. (d) : $P \times R + Q$ means P is the brother of R who is the daughter of Q i.e. P is the son of Q.
20. (a) : $P \times R - Q$ means P is the brother of R who is the wife of Q i.e. P is the brother-in-law of Q.
21. (c) : $P + R + Q$ means P is the father of R who is the daughter of Q i.e. P is the father of R and Q is the mother of R i.e. P is the husband of Q.
22. (d) : $P + R + Q$ means P is the daughter of R who is the father of Q i.e. P is the sister of Q.
23. (a) : $P \times R + Q$ means P is the brother of R who is the father of Q i.e. P is the uncle of Q.
24. (c) : $P - R \times Q$ means P is the wife of R who is the brother of Q i.e. P is the sister-in-law of Q.
-

6. PUZZLE TEST

This section comprises of questions put in the form of puzzles involving certain number of items, be it persons or things. The candidate is required to analyse the given information, condense it in a suitable form and answer the questions asked.

The questions on Puzzle Test may be of any of the following types :

- I. Classification Type Questions
- II. Seating/Placing Arrangements
- III. Comparison Type Questions
- IV. Sequential order of things
- V. Selection based on given conditions
- VI. Questions involving family members — their relationship, their professions, their preferences etc.
- VII. Jumbled up Problems

TYPE 1 : CLASSIFICATION TYPE QUESTIONS

This type consists of questions in which certain items belonging to different groups or possessing different qualities are given along with some clues with the help of which the candidate is required to group and analyse the given items and answer the questions accordingly.

Ex. 1. Read the following information carefully and answer the questions that follow :

There are six cities A, B, C, D, E and F.

A is not a hill station.

B and E are not historical places.

D is not an industrial city.

A and D are not historical cities.

A and B are not alike.

1. Which two cities are industrial centres ?
(a) A and B (b) E and F (c) C and D (d) B and F (e) A and D
2. Which two cities are historical places ?
(a) A and C (b) B and F (c) C and F (d) B and E (e) A and D
3. Which two cities are hill stations ?
(a) A and B (b) C and A (c) B and D (d) A and F (e) None of these
4. Which city is a hill station and an industrial centre but not a historical place ?
(a) E (b) F (c) A (d) B (e) C
5. Which two cities are neither historical places nor industrial centres ?
(a) A and B (b) D and E (c) F and C (d) B and D (e) None of these

Solution : The given information can be analysed as follows :

	A	B	C	D	E	F
Historical	×	×	√	×	×	√
Industrial	√	×	√	×	√	√
Hill Stations	×	√	√	√	√	√

Since A and B are not alike and because A is industrial, B cannot be industrial but only a hill station. So, we put a cross for B across Industrial.

- Clearly, A, C, E and F are Industrial Centres. So, the answer is (b).
- Clearly, C and F are Historical places. So, the answer is (c).
- Clearly, B, C, D, E and F are Hill stations. So, the answer is (c).
- E alone is a Hill station and an Industrial centre but not a Historical place. So, the answer is (a).
- B and D are neither Historical places nor Industrial centres. So, the answer is (d).

Ex. 2. Read the following information carefully and answer the questions that follow :

- Five friends P, Q, R, S and T travelled to five different cities of Chennai, Calcutta, Delhi, Bangalore and Hyderabad by five different modes of transport of Bus, Train, Aeroplane, Car and Boat from Mumbai.
- The person who travelled to Delhi did not travel by boat.
- R went to Bangalore by car and Q went to Calcutta by aeroplane.
- S travelled by boat whereas T travelled by train.
- Mumbai is not connected by bus to Delhi and Chennai. (Bank P.O. 1995)

- Which of the following combinations of person and mode is not correct ?
 (a) P — Bus (b) Q — Aeroplane (c) R — Car
 (d) S — Boat (e) T — Aeroplane
- Which of the following combinations is true for S ?
 (a) Delhi — Bus (b) Chennai — Bus (c) Chennai — Boat
 (d) Data inadequate (e) None of these
- Which of the following combinations of place and mode is not correct ?
 (a) Delhi — Bus (b) Calcutta — Aeroplane (c) Bangalore — Car
 (d) Chennai — Boat (e) Hyderabad — Bus
- The person travelling to Delhi went by which of the following modes ?
 (a) Bus (b) Train (c) Aeroplane (d) Car (e) Boat
- Who among the following travelled to Delhi ?
 (a) R (b) S (c) T (d) Data inadequate (e) None of these

Solution : The given information can be analysed as follows :

- Mode of Transport :** R travels by Car, Q by Aeroplane, S by Boat and T by Train. Now, only P remains. So, P travels by Bus.
- Place of Travel :** R goes to Bangalore, Q to Calcutta. Now, bus transport is not available for Delhi or Chennai. So, P who travels by Bus goes to Hyderabad. S travels by boat and hence, by (ii), did not go to Delhi. So, S goes to Chennai. Now, only T remains. So, T goes to Delhi.

	Place	Mode
P	Hyderabad	Bus
Q	Calcutta	Aeroplane
R	Bangalore	Car
S	Chennai	Boat
T	Delhi	Train

- Clearly, the incorrect combination is T — Aeroplane. So, the answer is (e).
- Clearly, the correct combination for S is Chennai — Boat. So, the answer is (c).
- Clearly, the incorrect combination is Delhi — Bus. So, the answer is (a).
- Clearly, T travelled to Delhi by Train. So, the answer is (b).
- Clearly, T travelled to Delhi. So, the answer is (c).

EXERCISE 6A

Directions (Questions 1 to 5) : Read the following information and answer the questions based on it : (Bank P.O. 1996)

In a school, there were five teachers. A and B were teaching Hindi and English. C and B were teaching English and Geography. D and A were teaching Mathematics and Hindi. E and B were teaching History and French.

- Who among the teachers was teaching maximum number of subjects ?
(a) A (b) B (c) C (d) D (e) E
- Which of the following pairs was teaching both Geography and Hindi ?
(a) A and B (b) B and C (c) C and A (d) D and B (e) None of these
- More than two teachers were teaching which subject ?
(a) History (b) Hindi (c) French (d) Geography (e) Mathematics
- D, B and A were teaching which of the following subjects ?
(a) English only (b) Hindi and English (c) Hindi only
(d) English and Geography (e) Mathematics and Hindi
- Who among the teachers was teaching less than two subjects ?
(a) A (b) B (c) D (d) Data inadequate (e) There is no such teacher

Directions (Questions 6 to 10) : Study the following information carefully and answer the questions that follow : (M.B.A. 1997)

Madhu and Shobha are good in Dramatics and Computer Science.
Anjali and Madhu are good in Computer Science and Physics.
Anjali, Poonam and Nisha are good in Physics and History.
Nisha and Anjali are good in Physics and Mathematics.
Poonam and Shobha are good in History and Dramatics.

- Who is good in Computer Science, History and Dramatics ?
(a) Anjali (b) Madhu (c) Shobha (d) Nisha
- Who is good in Physics, Dramatics and Computer Science ?
(a) Shobha (b) Poonam (c) Madhu (d) Anjali
- Who is good in Physics, History and Dramatics ?
(a) Poonam (b) Shobha (c) Madhu (d) Anjali

9. Who is good in History, Physics, Computer Science and Mathematics ?
 (a) Poonam (b) Nisha (c) Madhu (d) Anjali
10. Who is good in Physics, History and Mathematics but not in Computer Science ?
 (a) Madhu (b) Poonam (c) Nisha (d) Anjali
11. Ravi is not wearing white and Ajay is not wearing blue. Ravi and Sohan wear different colours. Sachin alone wears red. (Central Excise, 1992)
 What is Sohan's colour, if all four of them are wearing different colours ?
 (a) Red (b) Blue (c) White (d) Can't say

Directions (Questions 12-13) : Study the following information and answer the questions given below it :

- (i) Kailash, Govind and Harinder are intelligent.
 (ii) Kailash, Rajesh and Jitendra are hard-working.
 (iii) Rajesh, Harinder and Jitendra are honest.
 (iv) Kailash, Govind and Jitendra are ambitious.
12. Which of the following persons is neither hard-working nor ambitious ?
 (a) Kailash (b) Govind (c) Harinder (d) Rajesh (e) None of these
13. Which of the following persons is neither honest nor hard-working but is ambitious ?
 (a) Kailash (b) Govind (c) Rajesh (d) Harinder (e) None of these

Directions (Questions 14 to 17) : Read the following information and answer the questions that follow : (Railways, 1993)

Four youngmen Raj, Prem, Ved and Ashok are friendly with four girls Sushma, Kusum, Vimla and Poonam. Sushma and Vimla are friends. Ved's girl friend does not like Sushma and Vimla. Kusum does not care for Ved. Prem's girl friend is friendly with Sushma. Sushma does not like Raj.

14. Who is Raj's girl friend ?
 (a) Sushma (b) Kusum (c) Vimla (d) Poonam
15. With whom is Sushma friendly ?
 (a) Raj (b) Prem (c) Ved (d) Ashok
16. Who is Poonam's boy friend ?
 (a) Ashok (b) Ved (c) Prem (d) Raj
17. Who does not like Sushma and Vimla ?
 (a) Poonam (b) Raj (c) Ashok (d) Ved
18. In a cricket season, India defeated Australia twice, West Indies defeated India twice, Australia defeated West Indies twice, India defeated New Zealand twice and West Indies defeated New Zealand twice. Which country has lost most number of times ?
 (a) India (b) Australia (c) New Zealand (d) West Indies

(I. Tax & Central Excise, 1992)

Directions (Questions 19 to 21) : Read the following information and answer the questions given below it :

Six students A, B, C, D, E and F are sitting in the field. A and B are from Nehru House while the rest belong to Gandhi House. D and F are tall while the others are short. A, C and D are wearing glasses while the others are not.

19. Which two students, who are not wearing glasses are short ?
 (a) A and F (b) C and E (c) B and D (d) E and F (e) None of these

20. Which short student of Gandhi House is not wearing glasses ?
 (a) F (b) E (c) B (d) A (e) Data inadequate
21. Which tall student of Gandhi House is not wearing glasses ?
 (a) B (b) C (c) E (d) F (e) None of these
22. Six students A, B, C, D, E and F are sitting in the field. A and B are from Delhi while the rest are from Bangalore. D and F are tall while others are short. A, C and D are girls while others are boys. Which is the tall girl from Bangalore ?
 (a) C (b) D (c) E (d) F

(I. Tax & Central Excise, 1996)

23. On a shelf are placed six volumes side-by-side labelled A, B, C, D, E and F. B, C, E, F have green covers while others have yellow covers. A, D, B are new volumes while the rest are old volumes. A, C, B are law reports while the rest are medical extracts. Which two volumes are old medical extracts and have green covers ?
 (a) B, C (b) C, D (c) C, E (d) E, F

(Assistant Grade, 1996)

Directions (Questions 24 to 28) : Read the following information carefully and answer the questions given below it :

There are six persons A, B, C, D, E and F in a school. Each of the teachers teaches two subjects, one compulsory subject and the other optional subject. D's optional subject was History while three others have it as compulsory subject. E and F have Physics as one of their subjects. F's compulsory subject is Mathematics which is an optional subject of both C and E. History and English are A's subjects but in terms of compulsory and optional subjects, they are just reverse of those of D's. Chemistry is an optional subject of only one of them. The only female teacher in the school has English as her compulsory subject.

24. What is C's compulsory subject ?
 (a) History (b) Physics (c) Chemistry (d) English (e) Mathematics
25. Who is a female member in the group ?
 (a) A (b) B (c) C (d) D (e) E
26. Which of the following has same compulsory and optional subjects as those of F's ?
 (a) D (b) B (c) A (d) C (e) None of these
27. Disregarding which is the compulsory and which is the optional subject, who has the same two subject combination as F ?
 (a) A (b) B (c) E (d) D (e) None of these
28. Which of the following groups has History as the compulsory subject ?
 (a) A, C, D (b) B, C, D (c) C, D (d) A, B, C (e) A, D

Directions (Questions 29 to 32) : Read the following information carefully and answer the questions that follow :

(Bank P.O. 1996)

- (i) Jayant, Kamal, Namita, Asha and Tanmay are five members of a family.
 (ii) They have their birth dates from January to May, each member in one of these months.
 (iii) Each one likes one particular item for his/her birthday out of Bengali Sweets, Chocolates, Pastries, Ice Cream and Dry Fruits.
 (iv) The one who likes Pastries is born in the month which is exactly middle in the months given.

- (v) Asha does not like Ice cream but brings Chocolates for Jayant in February.
 (vi) Tanmay who is fond of Bengali sweets is born in the next month immediately after Namita.
 (vii) Namita does not like Dry fruits or Ice cream.
29. What is the choice of Asha ?
 (a) Pastries (b) Dry fruits (c) Bengali sweets
 (d) Cannot be determined (e) None of these
30. Which combination of month and item is true for Jayant ?
 (a) March — Pastries (b) February — Pastries (c) February — Ice cream
 (d) Cannot be determined (e) None of these
31. What is the choice of Kamal ?
 (a) Ice cream (b) Bengali sweets (c) Dry fruits
 (d) Cannot be determined (e) None of these
32. In which month was Kamal born ?
 (a) January (b) May (c) January or May
 (d) Data inadequate (e) None of these

Directions (Questions 33 to 37) : Read the following information carefully and answer the questions that follow : (S.B.I.P.O. 1997)

- (i) P, Q, R, S, T and U are six students procuring their Master's degree in six different subjects — English, History, Philosophy, Physics, Statistics and Mathematics.
 (ii) Two of them stay in hostel, two stay as paying guest (PG) and the remaining two stay at their home.
 (iii) R does not stay as PG and studies Philosophy.
 (iv) The students studying Statistics and History do not stay as PG.
 (v) T studies Mathematics and S studies Physics.
 (vi) U and S stay in hostel. T stays as PG and Q stays at home.
33. Who studies English ?
 (a) R (b) S (c) T (d) U (e) None of these
34. Which of the following combinations of subject and place of stay is not correct ?
 (a) English — Hostel (b) Mathematics — PG (c) Philosophy — Home
 (d) Physics — Hostel (e) None of these
35. Which of the following pairs of students stay one each at hostel and at home ?
 (a) QR (b) SR (c) US (d) Data inadequate (e) None of these
36. Which subject does Q study ?
 (a) History (b) Statistics (c) History or Statistics
 (d) Data inadequate (e) None of these
37. Which of the following pairs of students stay at home ?
 (a) PQ (b) QR (c) RS (d) ST (e) None of these

Directions (Questions 38 to 42) : Study the following information and answer the questions given below it : (Stenographer's Exam, 1994)

Rohit, Kunal, Ashish and John are students of a school. Three of them stay far from the school and one near it. Two study in class IV, one in class V and one in class VI. They study Hindi, Mathematics, Social Science and Science. One is good at all the four subjects while another is weak in all of these. Rohit stays far from the school and is good at Mathematics only while Kunal is weak in Mathematics

only and stays close to the school. Neither of these two nor Ashish studies in class VI. One who is good at all the subjects studies in class V.

38. Name the boy who is good at all the subjects.
 (a) Rohit (b) Kunal (c) Ashish (d) John
39. Name the boy who is weak in all the subjects.
 (a) Rohit (b) Kunal (c) Ashish (d) John
40. Which two boys are good at Hindi ?
 (a) Rohit and Kunal (b) Kunal and Ashish
 (c) Ashish and John (d) John and Rohit
41. Which two boys are good at Mathematics ?
 (a) Rohit and Ashish (b) Kunal and Ashish
 (c) John and Ashish (d) Rohit and John
42. Other than Rohit and the boy good at all the subjects, who else stays far from the school ?
 (a) Rohit (b) Kunal (c) Ashish (d) John

Directions (Questions 43 to 45) : Study the given information carefully and answer the questions that follow : (Bank P.O. 1997)

- (i) There are six friends A, B, C, D, E and F.
 (ii) Each one is proficient in one of the games, namely Badminton, Volleyball, Cricket, Hockey, Tennis and Polo.
 (iii) Each owns a different coloured car, namely yellow, green, black, white, blue and red.
 (iv) D plays Polo and owns a yellow coloured car.
 (v) C does not play either Tennis or Hockey and owns neither blue nor yellow coloured car.
 (vi) E owns a white car and plays Badminton.
 (vii) B does not play Tennis, he owns a red coloured car.
 (viii) A plays Cricket and owns a black car.
43. Who plays Volleyball ?
 (a) B (b) C (c) F
 (d) Data inadequate (e) None of these
44. Which coloured car F owns ?
 (a) Green (b) Blue (c) Either Green or Blue
 (d) Data inadequate (e) None of these
45. Which of the following combinations of colour of car and game played is not correct ?
 (a) Yellow — Polo (b) Green — Tennis (c) Black — Cricket
 (d) Red — Hockey (e) None of these
46. In a group of six women, there are four dancers, four vocal musicians, one actress and three violinists. Girija and Vanaja are among the violinists while Jalaja and Shailja do not know how to play on the violin. Shailja and Tanuja are among the dancers. Jalaja, Vanaja, Shailja and Tanuja are all vocal musicians and two of them are also violinists. If Pooja is an actress, who among the following is both a dancer and a violinist ? (I.A.S. 1993)
 (a) Jalaja (b) Shailja (c) Tanuja (d) Pooja

ANSWERS

Questions 1 to 5

The given information may be analysed as under :

	English	Hindi	Mathematics	Geography	History	French
A	√	√	√			
B	√	√		√	√	√
C	√			√		
D		√	√			
E					√	√

- (b) : E teaches maximum number of subjects i.e. 5.
- (e) : Only B teaches both Hindi and Geography.
- (b) : Three teachers were teaching Hindi — A, B and D.
- (c) : D, B and A were teaching Hindi.
- (e) : None of the teachers was teaching less than two subjects.

Questions 6 to 10

The given information can be analysed as under :

	Dramatics	Computer Sc.	Physics	History	Mathematics
Madhu	√	√	√		
Shobha	√	√		√	
Anjali		√	√	√	√
Poonam	√		√	√	
Nisha			√	√	√

- (c) : Shobha is good in Computer Science, History and Dramatics.
- (c) : Madhu is good in Physics, Dramatics and Computer Science.
- (a) : Poonam is good in Physics, History and Dramatics.
- (d) : Anjali is good in History, Physics, Computer Science and Mathematics.
- (c) : Nisha is good in Physics, History and Mathematics but not in Computer Science.
- (d) : The fourth colour and some more information are required.

Questions 12-13

We may prepare a table as under :

	Intelligent	Hard-working	Honest	Ambitious
Kailash	√	√		√
Govind	√			√
Harinder	√		√	
Rajesh		√	√	
Jitendra		√	√	√

- (c) : Harinder is neither hard-working nor ambitious.
- (b) : Govind is ambitious but neither honest nor hard-working.

Questions 14 to 17

Sushma and Vimla are friends and Prem's girl friend is friendly with Sushma. This means that Prem's girl friend is Vimla.

Ved's girl friend does not like Sushma and Vimla. So, she is either Kusum or Poonam. But Kusum does not care for Ved. So, **Ved's girl friend is Poonam.**

Sushma does not like Raj. So, **Raj's girl friend is Kusum.**

Clearly, **Ashok's girl friend is Sushma.**

14. (b) : Raj's girl friend is Kusum.
 15. (d) : Sushma is friendly with Ashok.
 16. (b) : Poonam's boy friend is Ved.
 17. (a) : Ved's girl friend i.e., Poonam does not like Sushma and Vimla.
 18. (c) : Australia was defeated twice by India.
 India was defeated twice by West Indies.
 West Indies was defeated twice by Australia.
 New Zealand was defeated twice by India and twice by West Indies i.e. 4 times in all.

Questions 19 to 21

We may prepare a table as under :

	Nehru House	Gandhi House	Tall	Short	Glasses	No glasses
A	√			√	√	
B	√			√		√
C		√		√	√	
D		√	√		√	
E		√		√		√
F		√	√			√

19. (c) : B and E are short and not wearing glasses.
 20. (b) : E belongs to Gandhi House, is short and does not wear glasses.
 21. (d) : F belongs to Gandhi House, is tall and is not wearing glasses.

22. (b) :

	Delhi	Bangalore	Tall	Short	Girls	Boys
A	√			√	√	
B	√			√		√
C		√		√	√	
D		√	√		√	
E		√		√		√
F		√	√			√

Clearly, D is the tall girl from Bangalore.

23. (d) :

	Green Cover	Yellow Cover	New Volume	Old Volume	Law Reports	Medical Extracts
A		√	√		√	
B	√		√		√	
C	√			√	√	
D		√	√			√
E	√			√		√
F	√			√		√

Clearly, E and F are old volumes which have green covers and are medical extracts.

Questions 33 to 37

(I) T stays as PG; S stays in hostel.

U stays in hostel and Q stays at home.

Now, R does not stay as PG. So, P stays as PG.

Clearly, R stays at home.

(II) S studies Physics; R studies Philosophy and T studies Mathematics. Now, P who stays as PG does not study Statistics or History. So, P studies English.

	Place of stay	Subject
P	PG	English
Q	Home	Statistics or History
R	Home	Philosophy
S	Hostel	Physics
T	PG	Mathematics
U	Hostel	Statistics or History

33. (e) : P studies English.

34. (a) : Clearly the incorrect combination is English — Hostel.

35. (b) : S stays in hostel and R stays at home.

36. (c) : Q studies History or Statistics.

37. (b) : Q and R stay at home.

Questions 38 to 42

(I) Kunal stays close to school. So, the other three — Rohit, Ashish and John stay far from the school.

(II) Rohit, Kunal and Ashish do not study in class VI. So, John studies in class VI.

Rohit and Kunal are not good at all subjects and John is in class VI. So, Ashish is good at all subjects and studies in class V.

Clearly, Rohit and Kunal study in class IV.

(III) Rohit is good at Mathematics, Kunal is weak in Mathematics. Ashish is good at all the subjects. Clearly, John is weak in all the subjects.

	Stay	Class	Good at	Weak in
Rohit	Far	IV	Mathematics	Hindi, Science, Social Science
Kunal	Close	IV	Hindi, Science, Social Science	Mathematics
Ashish	Far	V	All subjects	
John	Far	VI		All subjects

38. (c) : Ashish is good at all the subjects.

39. (d) : John is weak in all the subjects.

40. (b) : Kunal and Ashish are good at Hindi.

41. (a) : Rohit and Ashish are good at Mathematics.

42. (d) : Other than Rohit and Ashish, John stays far from school.

Questions 43 to 45

(I) D plays Polo; E plays Badminton; A plays Cricket. C does not play Tennis or Hockey. So, C plays Volleyball.

B does not play Tennis. So, he plays Hockey. Clearly, F plays Tennis.

Questions 24 to 28

The given information can be analysed as follows :

Let 'O' denote optional and 'C' denote compulsory.

	A	B	C	D	E	F
History	C	C	C	O	-	-
Physics	-	-	-	-	C	O
Mathematics	-	-	O	-	O	C
English	O	-	-	C	-	-
Chemistry	-	O	-	-	-	-

One compulsory subject of F is Mathematics. F has Physics as one of the subjects. So, Physics is optional of F. F has Mathematics as optional and Physics as one subject.

So, Physics is the compulsory subject of E. A and D have the same subjects — History and English. D has History as optional subject, and so English is the compulsory subject of D. Subjects of A and D are reverse in regard of optional and compulsory.

So, A has History as compulsory subject and English as optional.

Chemistry is the optional subject of only one teacher. So, it is the optional of B, which only remains.

We know that History is the compulsory subject of three teachers. So, it is compulsory for A, B and C.

D is the teacher having English as her compulsory subject.

So, D is the only female teacher.

24. (a) : C's compulsory subject is History.

25. (d) : D is the only female teacher.

26. (e) : E has same subjects as those of F but the compulsory and optional subjects of E are reverse of those of F. So, the answer is 'none of these'.

27. (c) : Clearly, E has the same subject combination as that of F.

28. (d) : A, B and C have History as the compulsory subject.

Questions 29 to 32

(I) **Choice** : Jayant likes Chocolates; Tanmay likes Bengali sweets. Namita does not like Dry fruits or Ice cream. So, Namita likes Pastries. Asha does not like Ice cream. So, she is fond of Dry fruits. Finally, Kamal likes Ice cream.

(II) **Date of Birth** : The one who likes Pastries *i.e.*, Namita is born in the middle of months given *i.e.*, in March. Tanmay is born in next month after Namita *i.e.*, in April. Jayant's birthday is in February.

	Choice	Date of birth
Jayant	Chocolates	February
Kamal	Ice cream	January or May
Namita	Pastries	March
Asha	Dry fruits	January or May
Tanmay	Bengali sweets	April

29. (d) : The choice of Asha is Dry fruits.

30. (e) : The correct combination for Jayant is February — Chocolates.

31. (a) : The choice of Kamal is Ice cream.

32. (c) : Kamal was born in January or May.

- (II) D has yellow car; E has white car; B has a red car; A has a black car.
Now, C does not have a blue car. So, colour of C's car is green.
Clearly, F owns a blue car.

	Game	Colour of Car
A	Cricket	Black
B	Hockey	Red
C	Volleyball	Green
D	Polo	Yellow
E	Badminton	White
F	Tennis	Blue

43. (b) : C plays Volleyball.
44. (b) : F owns a blue car.
45. (b) : Clearly, the incorrect combination is Green — Tennis.
46. (c) : The four vocal musicians and one actress in the group are given. Two dancers are Shailja and Tanuja. Two violinists are Girija and Vanaja. Since Jalaja and Shailja cannot be violinists, so, remaining two violinists are Tanuja and Pooja. Clearly, Tanuja is both a violinist and a dancer.

TYPE 2 : SEATING/PLACING ARRANGEMENTS

In this type of questions, some clues regarding seating or placing sequence (linear or circular) of some persons or items is given. The candidate is required to form the proper sequence using these clues and answer the questions accordingly.

Ex. 1. Read the following information carefully and answer the questions given below :

Six persons A, B, C, D, E and F are sitting in two rows, three in each.

E is not at the end of any row.

D is second to the left of F.

C, the neighbour of E, is sitting diagonally opposite to D.

B is the neighbour of F.

- Which of the following are sitting diagonally opposite to each other ?
(a) F and C (b) D and A (c) A and C (d) A and F (e) A and B
- Who is facing B ?
(a) A (b) C (c) D (d) E (e) F
- Which of the following are in the same row ?
(a) A and E (b) E and D (c) C and B (d) A and B (e) C and E
- Which of the following are in one of the two rows ?
(a) FBC (b) CEB (c) DBF (d) AEF (e) ABF
- After interchanging seat with E, who will be the neighbours of D in the new position ?
(a) C and A (b) F and B (c) Only B (d) Only A (e) Only C

Solution : The given information can be analysed as follows :

E is not at end. So, E must be in the middle of one of the rows.

D is second to the left of F. So, order of the row must be D — F.

C is neighbour of E and is sitting diagonally opposite to D means C is under F in the other row *i.e.*, D — F

— E C

B is the neighbour of F.

So, the arrangement must be

D	B	F
A	E	C

- Other than D and C (given), A and F are sitting diagonally opposite to each other, as seen in the arrangement. So, the answer is (d).
- Clearly, E is opposite to B in the other row. So, E is facing B and the answer is (d).
- Clearly, from amongst the given alternatives, A and E are in the same row. So, the answer is (a).
- Clearly, from amongst the given alternatives, D, B and F are in the same row. So, the answer is (c).
- Clearly, neighbours of E are A and C. So, on interchanging the seat with E, the new neighbours of D will be A and C. So, the answer is (a).

Ex. 2. Eight books are kept one over the other. Counting from the top, the second, fifth and sixth books are on Plays. Two books on Plays are between two books on Composition. One book of Plays is between two books on Poetry while the book at the top of the book of Literature is a book of Composition. Which book is fourth from the top?

- (a) Plays (b) Poetry (c) Composition (d) Literature

Solution : We analyse the given information as follows :

Let C denote 'Composition', P denote 'Plays', Po denote 'Poetry' and L denote 'Literature'.

1	2	3	4	5	6	7	8
-	P	-	-	P	P	-	-
-	-	-	C	P	P	C	-
Po	P	Po	-	-	-	-	-
-	-	-	-	-	-	C	L

So, the arrangement becomes :

1	2	3	4	5	6	7	8
Po	P	Po	C	P	P	C	L

Clearly, the fourth book from the top is on Composition. So, the answer is (c).

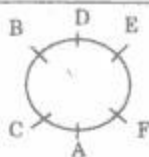
Ex. 3. Read the following information and answer the questions that follow :

- Six friends A, B, C, D, E and F are sitting in a closed circle facing the centre.
- E is to the left of D.
- C is between A and B.
- F is between E and A.

- Who is to the left of B ?
 (a) A (b) C (c) D (d) E (e) None of these
- Who is to the right of C ?
 (a) A (b) B (c) D (d) E (e) F
- Which of the above given statements is superfluous ?
 (a) (i) (b) (ii) (c) (iii) (d) (iv) (e) None of these

Solution : Clearly, in the circle the arrangement is as shown :

- (c) : Clearly, D is to the left of B.
- (a) : Clearly, A is to the right of C.
- (e) : Since all the statements are necessary to determine the arrangement, none of them is superfluous.



EXERCISE 6B

- Four girls are sitting on a bench to be photographed. Shikha is to the left of Reena. Manju is to the right of Reena. Rita is between Reena and Manju. Who would be second from the left in the photograph ? (Bank P.O. 1994)
(a) Reena (b) Shikha (c) Manju (d) Rita
- There are five different houses, A to E, in a row. A is to the right of B and E is to the left of C and right of A. B is to the right of D. Which of the houses is in the middle ? (C.E.I. 1995)
(a) A (b) B (c) D (d) E
- In a March Past, seven persons are standing in a row. Q is standing left to R but right to P. O is standing right to N and left to P. Similarly, S is standing right to R and left to T. Find out who is standing in the middle.
(a) P (b) Q (c) R (d) O
(Assistant Grade, 1996)
- Five children are sitting in a row. S is sitting next to P but not T. K is sitting next to R who is sitting on the extreme left and T is not sitting next to K. Who are sitting adjacent to S ?
(a) K and P (b) R and P (c) Only P
(d) P and T (e) Insufficient information
- Five girls are sitting in a row. Rashi is not adjacent to Sulekha or Abha. Anuradha is not adjacent to Sulekha. Rashi is adjacent to Monika. Monika is at the middle in the row. Then, Anuradha is adjacent to whom out of the following ?
(a) Rashi (b) Sulekha (c) Abha
(d) Monika (e) Cannot be determined

Directions (Questions 6 to 8) : Read the following information carefully and answer the questions given below it : (Bank P.O. 1994)

- (A) There are five friends.
(B) They are standing in a row facing South.
(C) Jayesh is to the immediate right of Alok.
(D) Pramod is between Bhagat and Subodh.
(E) Subodh is between Jayesh and Pramod.
- Who is at the extreme left end ?
(a) Alok (b) Bhagat (c) Subodh
(d) Data inadequate (e) None of these
 - Who is in the middle ?
(a) Bhagat (b) Jayesh (c) Pramod
(d) Subodh (e) Alok

8. To find answers to the above two questions, which of the given statements can be dispensed with ?
 (a) None (b) A only (c) B only (d) C only (e) D only
9. Five persons A, B, C, D and E are sitting in a row facing you such that D is on the left of C and B is on the right of E. A is on the right of C and B is on the left of D. If E occupies a corner position, then who is sitting in the centre ?
 (a) A (b) B (c) C (d) D (C.B.I. 1995)

Directions (Questions 10 to 14) : Study the given information carefully and answer the questions that follow : (L.I.C. 1994)

- (i) A, B, C, D, E, F and G are sitting on a wall and all of them are facing east.
 (ii) C is on the immediate right of D.
 (iii) B is at an extreme end and has E as his neighbour.
 (iv) G is between E and F.
 (v) D is sitting third from the south end.
10. Who is sitting to the right of E ?
 (a) A (b) C (c) D (d) F (e) None of these
11. Which of the following pairs of people are sitting at the extreme ends ?
 (a) AB (b) AE (c) CB (d) FB (e) Cannot be determined
12. Name the person who should change places with C such that he gets the third place from the north end.
 (a) E (b) F (c) G (d) D
13. Immediately between which of the following pairs of people is D sitting ?
 (a) AC (b) AF (c) CE (d) CF (e) None of these
14. Which of the conditions (i) to (v) given above is not required to find out the place in which A is sitting ?
 (a) (i) (b) (ii) (c) (iii) (d) All are required (e) None of these
15. In the Olympic Games, the flags of six nations were flown on the masts in the following way :
 (Assistant Grade, 1996)
 The flag of America was to the left of Indian tricolour and to the right of the flag of France. The flag of Australia was on the right of the Indian flag but was to the left of the flag of Japan, which was to the left of the flag of China. Find the two flags which are in the centre.
 (a) India and Australia (b) America and India
 (c) Japan and Australia (d) America and Australia
16. Mr. A, Miss B, Mr. C and Miss D are sitting around a table and discussing their trades.
 (1) Mr. A sits opposite to cook.
 (2) Miss B sits right to the barber.
 (3) The washerman is on the left of the tailor.
 (4) Miss D sits opposite Mr. C.
 What are the trades of A and B ?
 (a) Tailor and Barber (b) Tailor and Cook
 (c) Barber and Cook (d) Washerman and Cook

17. Sitting in a row in front of a camera, Mr. X is on the left of the person sitting in the centre but is on the right of Mr. Y. Mr. P is on the right of Mr. Z and Mr. R is on the right of Mr. P. Mr. R is the second person from the person sitting in the centre. Who is the person sitting in the centre? (C.B.I. 1993)
- (a) Mr. X (b) Mr. Y (c) Mr. Z (d) Mr. R

Directions (Questions 18 to 22) : Study the given information carefully and answer the questions that follow : (U.T.I. 1993)

- (i) Eleven students, A, B, C, D, E, F, G, H, I, J and K are sitting in the first row of the class facing the teacher.
- (ii) D who is to the immediate left of F is second to the right of C.
- (iii) A is second to the right of E, who is at one of the ends.
- (iv) J is the immediate neighbour of A and B and third to the left of G.
- (v) H is to the immediate left of D and third to the right of I.
18. Who is sitting in the middle of the row ?
- (a) B (b) C (c) G (d) I (e) None of these
19. Which of the following groups of friends is sitting to the right of G ?
- (a) CHDE (b) CHDF (c) IBJA (d) ICHDF (e) None of these
20. Which of the following statements is true in the context of the above sitting arrangements ?
- (a) There are three students sitting between D and G.
- (b) K is between A and J.
- (c) B is sitting between J and I.
- (d) G and C are neighbours sitting to the immediate right of H.
21. In the above sitting arrangement, which of the following statements is superfluous ?
- (a) (i) (b) (ii) (c) (iii) (d) (iv) (e) None is superfluous
22. If E and D, C and B, A and H and K and F interchange their positions, which of the following pairs of students is sitting at the ends ?
- (a) D and E (b) E and F (c) D and K
- (d) K and F (e) None of these

Directions (Questions 23 to 27) : Read the following information carefully and answer the questions given below it : (Bank P.O. 1995)

- (i) Eight persons E, F, G, H, I, J, K and L are seated around a square table — two on each side.
- (ii) There are three lady members and they are not seated next to each other.
- (iii) J is between L and F.
- (iv) G is between I and F.
- (v) H, a lady member, is second to the left of J.
- (vi) F, a male member is seated opposite E, a lady member.
- (vii) There is a lady member between F and I.
23. Who among the following is seated between E and H ?
- (a) F (b) I (c) J
- (d) Cannot be determined (e) None of these
24. How many persons are seated between K and F ?
- (a) One (b) Two (c) Three
- (d) Cannot be determined (e) None of these

25. Who among the following are the three lady members ?
 (a) E, G and J (b) E, H and G (c) G, H and J
 (d) Cannot be determined (e) None of these
26. Who among the following is to the immediate left of F ?
 (a) G (b) I (c) J
 (d) Cannot be determined (e) None of these
27. Which of the following is true about J ?
 (a) J is a male member. (b) J is a female member.
 (c) Sex of J cannot be determined. (d) Position of J cannot be determined.
 (e) None of these

Directions (Questions 28-29) : On the basis of the information given below, answer questions 28-29.

- (A) P, Q, R, S and T are sitting in a circle facing the centre.
 (B) R is immediate left of T.
 (C) P is between S and T.
28. Who is to the immediate left of R ?
 (a) P (b) Q (c) S (d) T (e) Cannot be determined
29. To find the answer to the above question, which of the following statements can be dispensed with ?
 (a) None (b) B only (c) C only (d) B or C only (e) None of these
30. Six friends A, B, C, D, E and F are sitting in a closed circle facing the centre. A is facing D. C is between A and B. F is between E and A. Who is to the immediate left of B ?
 (I. Tax & Central Excise, 1996)
 (a) A (b) C (c) D (d) E

Directions (Questions 31-32) : Read the following information carefully and answer the questions that follow : (Bank P.O. 1995)

A, B, C, D, E and F are seated in a circle facing the centre. D is between F and B. A is second to the left of D and second to the right of E.

31. Who is facing A ?
 (a) B (b) D (c) F
 (d) Either F or B (e) None of these
32. Who among the following is facing D ?
 (a) A (b) C (c) E
 (d) Cannot be determined (e) None of these

Directions : On the basis of the information given below, answer questions 33-34. (S.B.I.P.O. 1995)

Eight friends A, B, C, D, E, F, G and H are sitting in a circle facing the centre. B is sitting between G and D. H is third to the left of B and second to the right of A. C is sitting between A and G and B and E are not sitting opposite to each other.

33. Who is third to the left of D ?
 (a) A (b) E (c) F
 (d) Cannot be determined (e) None of these
34. Which of the following statements is not correct ?
 (a) C is third to the right of D. (b) A is sitting between C and F.

- (c) D and A are sitting opposite of each other.
 (d) E is sitting between F and D.
 (e) E and C are sitting opposite of each other.
35. A group of eight members sit in a circle. D is between A and F and is opposite to G. E is to the right of A but on the left of C, whose right hand neighbour is G. B enjoys having H to his left and F to his right. Find the member who is diagonally opposite to A. (Central Excise, 1995)
- (a) B (b) F (c) G (d) H

Directions (Questions 36 to 38) : Study the given information carefully and answer the questions that follow : (U.T.I. 1993)

- (i) There are seven books one each on Psychology, Hindi, English, Sociology, Economics, Education and Accountancy, lying on a table one above the other.
 (ii) Sociology is on the top of all the books.
 (iii) Accountancy is immediately below Education which is immediately below Sociology.
 (iv) Economics is immediately above Psychology but not in the middle.
 (v) Hindi is immediately below Psychology.
36. Economics is between which of the following books ?
 (a) Accountancy and Education (b) Psychology and Hindi
 (c) English and Psychology (d) Psychology and Sociology
 (e) None of these
37. Which three books are between Accountancy and Hindi ?
 (a) English, Economics and Psychology
 (b) Economics, Psychology and Education
 (c) Economics, Psychology and Hindi
 (d) Cannot be determined
 (e) None of these
38. If Sociology and English, Accountancy and Hindi and Education and Psychology interchange their positions, which book will be between Psychology and Sociology ?
 (a) Accountancy (b) Psychology (c) Hindi
 (d) Economics (e) None of these
39. In a shop, the items were arranged in a shelf consisting of six rows. Biscuits are arranged above the tins of chocolates but below the rows of packets of chips, cakes are at the bottom and the bottles of peppermints are below the chocolates. The topmost row had the display of jam bottles. Where exactly are the bottles of peppermints ? Mention the place from the top. (Central Excise, 1996)
- (a) 2nd (b) 3rd (c) 4th (d) 5th
40. In a pile of reading material, there are novels, story-books, dramas and comics. Every novel has a drama next to it, every story-book has a comic next to it and there is no story-book next to a novel. If there be a novel at the top and the number of books be 40, the order of the books in the pile is :
 (a) nsdc (b) ndsc (c) csdn (d) dnsc

(Hotel Management, 1996)

Directions (Questions 41-42) : The following questions are based on the information given below : (S.B.I.P.O. 1995)

- (i) Seven books are placed one above the other in a particular way.

- (ii) History book is placed exactly above Civics book.
- (iii) Geography book is fourth from the bottom and English book is fifth from the top.
- (iv) There are two books in between Civics and Economics books.
41. How many books are there between Civics and Science books ? To answer this question, which other extra information is required, if any, from the following ?
- (a) There are two books between Geography and Science books.
- (b) There are two books between Mathematics and Geography books.
- (c) There is one book between English and Science books.
- (d) The Civics book is before two books above Economics book.
- (e) No other information is required.
42. Out of the following, which three books are kept above English book ? To answer this question, which of the other informations, if any, is required ?
- (a) The Economics book is between English and Science books.
- (b) There are two books between English and History books.
- (c) The Geography book is above English book.
- (d) The Science book is placed at the top.
- (e) No other information is required.
43. In a pile of 10 books, there are 3 of History, 3 of Hindi, 2 of Mathematics and 2 of English. Taking from above, there is an English book between a History and Mathematics book, a History book between a Mathematics and an English book, a Hindi book between an English and a Mathematics book, a Mathematics book between two Hindi books and two Hindi books between a Mathematics and a History book. Book of which subject is at the sixth position from the top ?
- (a) English (b) Hindi (c) Mathematics (d) History

Directions (Questions 44 to 48) : Read the following information carefully and answer the questions given below it : (Bank P.O. 1991)

In a car exhibition, seven cars of seven different companies viz. Cardilac, Ambassador, Fiat, Maruti, Mercedes, Bedford and Fargo were displayed in a row, facing east such that :

- (1) Cardilac car was to the immediate right of Fargo.
- (2) Fargo was fourth to the right of Fiat.
- (3) Maruti car was between Ambassador and Bedford.
- (4) Fiat, which was third to the left of Ambassador car, was at one of the ends.
44. Which of the following was the correct position of the Mercedes ?
- (a) Immediate right of Cardilac (b) Immediate left of Bedford
- (c) Between Bedford and Fargo (d) Fourth to the right of Maruti
- (e) None of these
45. Which of the following is definitely true ?
- (a) Fargo car is between Ambassador and Fiat.
- (b) Cardilac car is to the immediate left of Mercedes.
- (c) Fargo is to the immediate right of Cardilac.
- (d) Maruti is fourth to the right of Mercedes.
- (e) None of these

46. Which cars are on the immediate either sides of the Cardilac car ?
 (a) Ambassador and Maruti (b) Maruti and Fiat (c) Fiat and Mercedes
 (d) Ambassador and Fargo (e) None of these
47. Which of the following is definitely true ?
 (a) Maruti is to the immediate left of Ambassador.
 (b) Bedford is to the immediate left of Fiat.
 (c) Bedford is at one of the ends.
 (d) Fiat is second to the right of Maruti.
 (e) None of these
48. Which of the following groups of cars is to the right of the Ambassador car ?
 (a) Cardilac, Fargo and Maruti (b) Maruti, Bedford and Fiat
 (c) Mercedes, Cardilac and Fargo (d) Bedford, Cardilac and Fargo

Directions (Questions 49 to 53) : Study the following information carefully and answer the questions given below it :

All the roads of a city are either perpendicular or parallel to one another. The roads are all straight. Roads A, B, C, D and E are parallel to one another. Roads G, H, I, J, K, L and M are parallel to one another.

- (i) Road A is 1 km east of road B.
 (ii) Road B is $\frac{1}{2}$ km west of road C.
 (iii) Road D is 1 km west of road E.
 (iv) Road G is $\frac{1}{2}$ km south of road H.
 (v) Road I is 1 km north of road J.
 (vi) Road K is $\frac{1}{2}$ km north of road L.
 (vii) Road M is 1 km south of road L.
49. Which is necessarily true ?
 (a) E and B intersect. (b) D is 2 km west of B.
 (c) D is at least 2 km west of A. (d) M is 1.5 km north of L.
 (e) I is 1 km north of L.
50. If E is between B and C, which of the following is false ?
 (a) D is 2 km west of A.
 (b) C is less than 1.5 km from D.
 (c) Distance from E to B added to distance of E to C is $\frac{1}{2}$ km.
 (d) E is less than 1 km from A.
 (e) D is less than 1 km from B.
51. If road E is between B and C, then distance between A and D is :
 (a) $\frac{1}{2}$ km (b) 1 km (c) 1.5 km (d) 1.5-2 km (e) 2-2.5 km
52. Which of the following possibilities would make two roads coincide ?
 (a) L is $\frac{1}{2}$ km north of I. (b) C is 1 km west of D.
 (c) I is $\frac{1}{2}$ km north of K. (d) D is $\frac{1}{2}$ km east of A.
 (e) E and B are $\frac{1}{2}$ km apart.

53. If K is parallel to I and K is $\frac{1}{2}$ km south of J and 1 km north of G, which two roads would be $\frac{1}{2}$ km apart ?

- (a) I and K (b) J and G (c) I and G (d) J and H (e) K and J

Directions (Questions 54 to 58) : Read the following information carefully and answer the questions given below it : (M.A.T. 1997)

Seven friends Kamla, Manish, Rohit, Amit, Gaurav, Pritam and Priya are sitting in a circle. Kamla, Manish, Rohit, Amit, Pritam and Priya are sitting at equal distances from each other.

Rohit is sitting two places right of Pritam, who is sitting one place right of Amit. Kamla forms an angle of 90 degrees from Gaurav and an angle of 120 degrees from Manish. Manish is just opposite Priya and is sitting on the left of Gaurav.

54. Who is the only person sitting between Rohit and Manish ?

- (a) Pritam (b) Amit (c) Gaurav (d) Kamla

55. Gaurav is not sitting at equal distances from

- (a) Rohit and Pritam (b) Amit and Kamla
(c) Manish and Pritam (d) All of the above

56. Gaurav is sitting of Priya.

- (a) to the left (b) to the right (c) two places right (d) None of these

57. The angle between Gaurav and Manish in the clockwise direction is

- (a) 150° (b) 180° (c) 210° (d) None of these

58. Which of the following statements is not correct ?

- (a) Pritam is between Manish and Kamla.
(b) Manish is two places away from Priya.
(c) Gaurav is sitting opposite Pritam.
(d) All of the above

ANSWERS

- (d) : Shikha is to the left of Reena and Manju is to her right. Rita is between Reena and Manju. So, the order is : Shikha, Reena, Rita, Manju. In the photograph, Rita will be second from left.
- (a) : B is to the right of D. A is to the right of B. E is to the right of A and left of C. So, the order is : D, B, A, E, C.
Clearly, A is in the middle.
- (b) : Q is left to R and to the right of P i.e. P, Q, R.
O is to the right of N and left of P i.e. N, O, P.
S is to the right of R and left of T i.e. R, S, T.
So, the order is : N, O, P, Q, R, S, T.
Clearly, Q is in the middle.
- (d) : S is sitting next to P. So, the order S, P or P, S is followed. K is sitting next to R. So, the order R, K is followed because R is on the extreme left. T is not next to P or K.
So, the arrangement will be R, K, P, S, T.
Clearly, P and T are sitting adjacent to S.
- (a) : Clearly, the order is : Anuradha, Rashi, Monika, Sulekha, Abha. Anuradha is adjacent to Rashi.

Questions 6 to 8

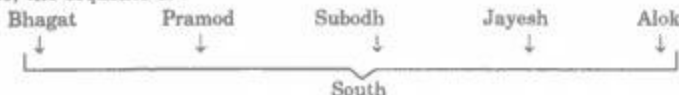
Note : The boys are standing facing south. So, consider 'left' and 'right' accordingly.

Jayesh is to the right of Alok i.e. J, A.

Pramod is between Bhagat and Subodh i.e. B, P, S.

Subodh is between Jayesh and Pramod.

So, the sequence is :



6. (a) : Alok is at the extreme left end.

7. (d) : Subodh is in the middle.

8. (b) : Statement (A) is superfluous.

9. (d) : D is on the left of C i.e. C, D.

B is on the right of E i.e. B, E.

A is on the right of C i.e. A, C.

B is on the left of D i.e. D, B.

From the above statements, the correct order is : A, C, D, B, E.

Clearly, D is sitting in the centre.

Note : It is given that A, B, C, D, E are sitting facing you. So, your right and left will be considered as left and right respectively.

Questions 10 to 14

C is to the right of D.

D is third from south. So, B will be at the extreme end from north because it should have E as its neighbour. G is between E and F. So, the sequence is :

B →
E →
G →
F → East
D →
C →
A →

10. (e) : G is sitting to the right of E.

11. (a) : A and B are sitting at the extreme ends.

12. (c) : G should change place with C to make it third from north.

13. (d) : D is sitting between C and F.

14. (d) : All the statements are required to determine the correct sequence.

15. (a) : Clearly, the correct sequence is :

France, America, India, Australia, Japan, China.

The two flags in the centre are of India and Australia.

16. (b) : Clearly, C and D sit opposite to each other. So, if A sits opposite to cook, B shall be the cook.

Now, B is to the right of barber. So, one of the rest, say C will be barber. Clearly, then D on the opposite side shall be washerman or tailor. But, washerman is left of tailor and D is to the left of A. So, D is washerman and A is tailor. Thus, A and B are Tailor and Cook.

17. (c) : Mr. X is on the right of Mr. Y and on the left of person in the centre i.e. Y, X, —
Mr. P is on the right of Mr. Z and Mr. R is on the right of Mr. P i.e. Z, P, R.

R is second from the person sitting in the centre.

So, the order is Y, X, Z, P, R. Clearly, Z is sitting in the centre.

Questions 18 to 22

D is to the left of F and second to the right of C i.e. C — D F.

A is second to the right of E i.e. E — A.

J is the immediate neighbour of A and B and third to the left of G i.e. A J B — G.

H is to the left of D and third to the right of I i.e. I — H D.

The above four orders may be combined to obtain the correct order as under :

E, K, A, J, B, I, G, C, H, D, F

18. (d) : I is in the middle.

19. (b) : C, H, D, F are to the right of G.

20. (c) : B is sitting between J and I.

21. (e) : All the statements are needed to determine the correct sequence.

22. (c) : The new sequence formed on interchanging seats is :

D, F, H, J, C, I, G, B, A, E, K

D and K are sitting at the ends in the new arrangement.

Questions 23 to 27

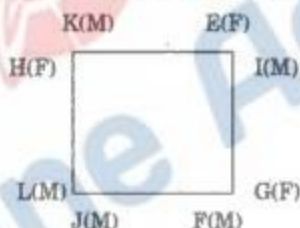
J is between L and F i.e. the order is L J F.

G is between I and F i.e. the order is F G I.

Thus, the sequence becomes L J F G I.

H is second to the left of J i.e. H L J F G I.

Writing the above sequence in form of a square table, we have :



M = Male,
F = Female

E is seated opposite F. Since G is between F and I, so G is a female member.

23. (e) : K is seated between E and H.

24. (c) : Three persons — H, L and J are seated between K and F.

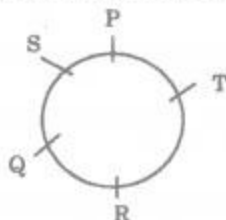
25. (b) : The three lady members are E, H and G.

26. (c) : J is to the immediate left of F.

27. (a) : Clearly, J is a male member.

Questions 28-29

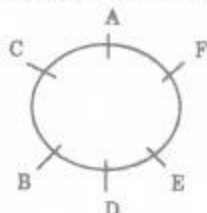
Clearly, in the circle the arrangement is as shown :



28. (b) : Q is to the immediate left of R.

29. (a) : All the statements are necessary.

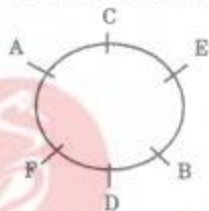
30. (b) : Clearly, in a circle the arrangement is as shown.



Thus, C is to the immediate left of B.

Questions 31-32

Clearly, the circular arrangement is as shown :



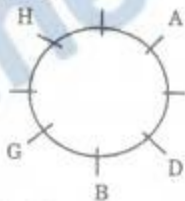
31. (a) : Clearly, B is facing A.

32. (b) : C is facing D.

Questions 33-34

B is between G and D i.e. the order is G B D. H is third to the left of B and second to the right of A.

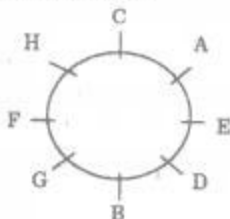
So, forming a circle we have :



C is between A and G. But E is not opposite B.

So, C is between A and H.

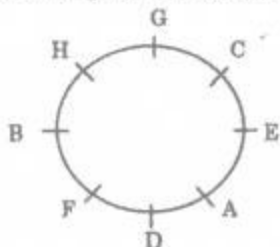
Thus, the final arrangement becomes :



33. (c) : F is third to the left of D.

34. (d) : Clearly, E is not sitting between F and D.

35. (d) : Clearly, in a circle the arrangement is as shown :



H is diagonally opposite to A.

Questions 36 to 38

Sociology is on top of all books. Education is below Sociology. Accountancy is below Education.

Economics is above Psychology and Psychology is above Hindi.

Economics is not in the middle. So, in the middle lies the seventh book i.e. English.

Thus, the sequence from top to bottom is :

Sociology, Education, Accountancy, English, Economics, Psychology, Hindi.

36. (c) : Economics is between English and Psychology.

37. (a) : There are three books between Accountancy and Hindi — English, Economics, Psychology.

38. (c) : The new sequence formed on interchanging places is English, Psychology, Hindi, Sociology, Economics, Education, Accountancy.

Clearly, Hindi is between Psychology and Sociology.

39. (d) : Jam bottles are at the top.

Biscuits are below chips, chocolates are below biscuits, peppermints are below chocolates and cakes are at the bottom.

So, the sequence from top to bottom is :

Jam bottles, Chips, Biscuits, Chocolates, Peppermint, Cakes.

40. (b) : Clearly, the sequence is : novel, drama, story-book, comic i.e. ndsc.

Questions 41-42

Clearly, the sequence of the five books mentioned, from top to bottom is :

—, History, Civics, Geography, English, Economics, —

41. (c) : Clearly, (c) gives us the clue that Science book is placed at the bottom. Thus, we know that there are three books between Civics and Science.

42. (e) : Clearly, History, Civics and Geography are three books kept above English. To find this, no information other than the given ones is required.

43. (b) : Starting from above, English is between History and Mathematics i.e., H, E, M.

History is between Mathematics and English i.e., H, E, M, H, E.

Hindi is between English and Mathematics i.e., H, E, M, H, E, Hi, M.

Mathematics is between two Hindi books i.e., H, E, M, H, E, Hi, M, Hi.

Two Hindi books are between Mathematics and History i.e., H, E, M, H, E, Hi, M, Hi, M, Hi, H. Clearly, Hindi book is at sixth position from top.

Questions 44 to 48

We analyse the given information as follows :

Arranging the cars from left to right as per the information, we have :

Fargo and Cardilac

Fiat, Car, Car, Car, Fargo

Maruti between Ambassador and Bedford.

Fiat, Car, Car, Ambassador.

Knowing that Fiat lies at one of the ends, we have from left to right :

1	2	3	4	5	6	7
Fiat	Bedford	Maruti	Ambassador	Fargo	Cardilac	Mercedes

44. (d) : Clearly, Maruti is in the third place and Mercedes in the seventh i.e. Mercedes is fourth to the right of Maruti.
45. (b) : Clearly, the Cardilac on the sixth place, is to the immediate left of the Mercedes, on the seventh place.
46. (e) : On either side of the Cardilac are the Fargo and the Mercedes.
47. (a) : Clearly, Maruti in the third place, is to the immediate left of Ambassador, in the fourth place.
48. (c) : To the right of the Ambassador are the Fargo, Cardilac and Mercedes.

Questions 49 to 53

Clearly from statements (1) and (2), figure 1 follows; from statement (3), figure 2 follows; from statement (4), figure 3 follows; and from statement (5), figure 4 follows; and from statements (6) and (7), figure 5 follows.

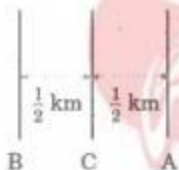


Fig. 1

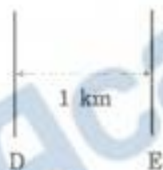


Fig. 2

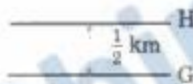


Fig. 3

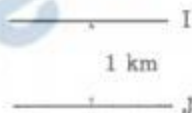


Fig. 4

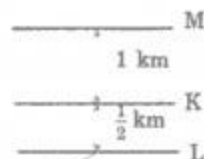
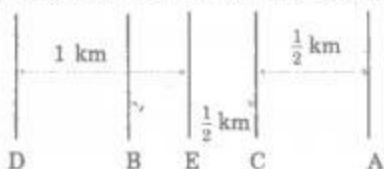


Fig. 5

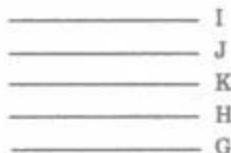
49. (d) : It follows from figure 5 that distance of M from L = $LK + KM = \frac{1}{2} + 1 = 1.5$ km and M is to the north of L.
50. (b) : If E is between B and C, we will have the following figure :



Thus, the statement that D is 2 km west of B is false.

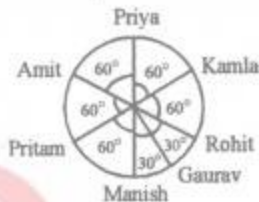
51. (d) : From the figure in Q. 50, the distance between A and D
 $= AB + ED - BE = \left(1 + 1 - \frac{1}{4}\right) = 2 - .25$ i.e. between 1.5 to 2 km.
52. (e) : Clearly seeing the figure in Q. 50, we find that if E and B are $\frac{1}{2}$ km apart, there is a possibility that E coincides with C.

53. (e) : Clearly as per the information combined with figures 3 and 4, the figure is as shown. The two roads J and K, K and H and H and G are 1/2 km apart. So, the answer is K and J.



Questions 54 to 58

Clearly in a circle the arrangement is as shown :



54. (c) : Gaurav is sitting between Rohit and Manish.
 55. (d) : Gaurav is not at equal distances from Rohit and Pritam or Amit and Kamla or Manish and Pritam.
 56. (d) : Gaurav is three places left or four places right of Priya.
 57. (d) : The angle between Gaurav and Manish in clockwise direction is 30° .
 58. (d) : Clearly, all the statements follow from the diagram above.

TYPE 3 : COMPARISON TYPE QUESTIONS

In such type of questions, clues are given regarding comparisons among a set of persons or things with respect to one or more qualities. The candidate is required to analyse the whole information, form a proper ascending/descending sequence and then answer the given questions accordingly.

Ex. 1. Read the following information and answer the questions given below it :

There are five friends — Sachin, Kunal, Mohit, Anuj and Rohan.

Sachin is shorter than Kunal but taller than Rohan.

Mohit is the tallest.

Anuj is a little shorter than Kunal and little taller than Sachin.

- Who is the shortest ?
 (a) Rohan (b) Sachin (c) Anuj (d) Kunal (e) None of these
- If they stand in the order of their heights, who will be in the middle ?
 (a) Kunal (b) Rohan (c) Sachin (d) Anuj (e) None of these
- If they stand in the order of increasing heights, who will be the second ?
 (a) Anuj (b) Sachin (c) Rohan (d) Kunal (e) None of these
- Who is the second tallest ?
 (a) Sachin (b) Kunal (c) Anuj (d) Rohan (e) None of these
- Who is taller than Anuj but shorter than Mohit ?
 (a) Kunal (b) Rohan (c) Sachin
 (d) Data inadequate (e) None of these

Solution : Let us denote the five boys by the first letter of their names, namely S, K, M, A and R.

Then, $R < S < K < M$ and $S < A < K$.

$\therefore R < S < A < K < M$

- (a) : Rohan is shortest.
- (d) : Anuj is in the middle.
- (b) : In the order of increasing heights i.e. shortest to tallest, Sachin is second.
- (b) : Kunal is second tallest.
- (a) : Kunal is taller than Anuj but shorter than Mohit.

Ex. 2. Read the information given below and answer the questions that follow :

- There is a group of five girls.
 - Kamini is second in height but younger than Rupa.
 - Pooja is taller than Monika but younger in age.
 - Rupa and Monika are of the same age but Rupa is tallest between them.
 - Neelam is taller than Pooja and elder to Rupa. **(Bank P.O. 1986)**
- If they are arranged in the ascending order of height, who will be in third position ?
 (a) Monika (b) Rupa (c) Monika or Rupa
 (d) Data inadequate (e) None of these
 - If they are arranged in the descending order of their ages, who will be in fourth position ?
 (a) Monika or Rupa (b) Kamini (c) Monika
 (d) Data inadequate (e) None of these
 - To answer the question "who is the youngest person in the group", which of the given statements is superfluous ?
 (a) Only (i) (b) Only (ii) (c) Only (v)
 (d) Either (i) or (iv) (e) None of these

Solution : We first find the sequence of heights :

By (iii), we have : $M < P$.

By (v), we have : $P < N$.

Now, Rupa is tallest and Kamini is second in height.

So, the sequence of heights is : $M < P < N < K < R$.

Now, we determine the age sequence :

By (ii), we have : $K < R$.

By (iii), we have : $P < M$.

By (iv), we have : $R = M$.

By (v), we have : $R < N$.

So, the sequence of ages is : $N < R = M < K < P$ or $N < R = M < P < K$.

- Clearly, in the increasing order of height, Neelam is in third position.
Hence, the answer is (e).
- Clearly, in the descending order of ages, Neelam will be in fourth position (because Monika and Rupa both lie at third position).
Hence, the answer is (e).
- Clearly, only statement (i) is not necessary.
Hence, the answer is (a).

EXERCISE 6C

1. Compare the knowledge of persons X, Y, Z, A, B and C in relation to each other :
- X knows more than A.
 - Y knows as much as B.
 - Z knows less than C.
 - A knows more than Y.
- The best knowledgeable person amongst all is : (S.C.R.A. 1996)
- (a) X (b) Y (c) A (d) C
2. Five children were administered psychological tests to know their intellectual levels. In the report, psychologists pointed out that the child A is less intelligent than the child B. The child C is less intelligent than the child D. The child B is less intelligent than the child C and child A is more intelligent than the child E. Which child is the most intelligent ? (Bank P.O. 1996)
- (a) A (b) B (c) D (d) E (e) None of these
3. Among five boys, Vineet is taller than Manick, but not as tall as Ravi. Jacob is taller than Dilip but shorter than Manick. Who is the tallest in their group ?
- (a) Ravi (b) Manick (c) Vineet
(d) Cannot be determined (e) None of these (NABARD, 1994)
4. If (i) P is taller than Q; (ii) R is shorter than P; (iii) S is taller than T but shorter than Q, then who among them is the tallest ? (B.S.R.B. 1995)
- (a) P (b) Q (c) S (d) T (e) Can't be determined
5. Five boys participated in a competition. Rohit was ranked lower than Sanjay. Vikas was ranked higher than Dinesh. Kamal's rank was between Rohit and Vikas. Who was ranked highest ?
- (a) Sanjay (b) Vikas (c) Dinesh (d) Kamal (e) None of these
6. In an examination, Raj got more marks than Mukesh but not as many as Priya. Priya got more marks than Gaurav and Kavita. Gaurav got less marks than Mukesh but his marks are not the lowest in the group. Who is second in the descending order of marks ? (Bank P.O. 1997)
- (a) Priya (b) Kavita (c) Raj
(d) Cannot be determined (e) None of these
7. Ashish is heavier than Govind. Mohit is lighter than Jack. Pawan is heavier than Jack but lighter than Govind. Who among them is the heaviest ? (Bank P.O. 1995)
- (a) Govind (b) Jack (c) Pawan (d) Ashish (e) Mohit
8. Pune is bigger than Jhansi, Sitapur is bigger than Chittor. Raigarh is not as big as Jhansi, but is bigger than Sitapur. Which is the smallest ? (Railways, 1994)
- (a) Pune (b) Jhansi (c) Sitapur (d) Chittor
9. Rohan is taller than Anand but shorter than Seema. Krishna is taller than Pushpa but shorter than Anand. Dhiraj is taller than Krishna but shorter than Seema. Who among them is the tallest ? (B.S.R.B. 1996)
- (a) Rohan (b) Seema (c) Krishna
(d) Cannot be determined (e) None of these

Directions (Questions 10-11) : Read the following information carefully and answer the questions given below it : (Bank P.O. 1994)

- (A) Gopal is shorter than Ashok but taller than Kunal;
 (B) Navin is shorter than Kunal;
 (C) Jayesh is taller than Navin;
 (D) Ashok is taller than Jayesh.

10. Who among them is the tallest ?
 (a) Gopal (b) Ashok (c) Kunal (d) Navin (e) Jayesh
11. Which of the given informations is not necessary to answer the above question ?
 (a) A (b) B (c) C (d) D (e) None of these
12. B is twice as old as A but twice younger than F.
 C is half the age of A but twice the age of D.
 Which two persons form the pair of oldest and youngest ?
 (a) F and A (b) F and D (c) B and F
 (d) F and C (e) None of these
13. Sudhanshu is as much older than Kokila as he is younger than Praveen. Nitin is as old as Kokila. Which of the following statements is wrong ? (Bank P.O. 1995)
 (a) Kokila is younger than Praveen. (b) Nitin is younger than Praveen.
 (c) Sudhanshu is older than Nitin. (d) Praveen is not the oldest.
 (e) Kokila is younger than Sudhanshu.
14. A is elder to B while C and D are elder to E who lies between A and C. If C be elder to B, which one of the following statements is necessarily true ?
 (a) A is elder to C (b) C is elder to D
 (c) D is elder to C (d) E is elder to B

(Hotel Management, 1995)

15. Hitesh is richer than Jaya whereas Mohan is richer than Pritam. Lalit is as rich as Jaya. Amit is richer than Hitesh. What conclusion can be definitely drawn from the above statements ? (Hotel Management, 1996; Asstt. Grade, 1995)
 (a) Jaya is poorer than Pritam. (b) Mohan is richer than Amit.
 (c) Lalit is poorer than Hitesh. (d) Pritam is richer than Lalit.

Directions (Questions 16 to 21) : Study the following information and answer the questions given below it :

A blacksmith has five iron articles A, B, C, D and E, each having a different weight.

- (i) A weighs twice as much as B.
 (ii) B weighs four and a half times as much as C.
 (iii) C weighs half as much as D.
 (iv) D weighs half as much as E.
 (v) E weighs less than A but more than C.
16. Which of the following is the lightest in weight ?
 (a) A (b) B (c) C (d) D (e) E
17. E is lighter in weight than which of the other two articles ?
 (a) A, B (b) D, C (c) A, C (d) D, B (e) B, E
18. E is heavier than which of the following two articles ?
 (a) D, B (b) D, C (c) A, C (d) A, B (e) None of these

19. Which of the following articles is the heaviest in weight ?
 (a) A (b) B (c) C (d) D (e) E
20. Which of the following represents the descending order of weights of the articles ?
 (a) A, B, E, D, C (b) B, D, E, A, C (c) E, C, D, A, B
 (d) C, A, D, B, E (e) A, B, D, E, C
21. Which of the above given statements is not necessary to determine the correct order of articles according to their weights ?
 (a) 1 (b) 2 (c) 3 (d) 4 (e) 5

Directions (Questions 22 to 26) : Read the following information and answer the questions given below it :

- (i) Seven students P, Q, R, S, T, U and V take a series of tests.
 (ii) No two students get similar marks.
 (iii) V always scores more than P.
 (iv) P always scores more than Q.
 (v) Each time either R scores the highest and T gets the least, or alternatively S scores the highest and U or Q scores the least.
22. If S is ranked sixth and Q is ranked fifth, which of the following can be true ?
 (a) V is ranked first or fourth. (b) R is ranked second or third.
 (c) P is ranked second or fifth. (d) U is ranked third or fourth.
 (e) T is ranked fourth or fifth.
23. If R gets most, V should be ranked not lower than :
 (a) second (b) third (c) fourth (d) fifth (e) sixth
24. If R is ranked second and Q is ranked fifth, which of the following must be true ?
 (a) S is ranked third. (b) T is ranked sixth. (c) P is ranked sixth.
 (d) V is ranked fourth. (e) U is ranked sixth.
25. If S is ranked second, which of the following can be true ?
 (a) U gets more than V. (b) V gets more than S. (c) P gets more than R.
 (d) P gets more than V. (e) T gets more than Q.
26. If V is ranked fifth, which of the following must be true ?
 (a) S scores the highest. (b) R is ranked second. (c) T is ranked third.
 (d) Q is ranked fourth. (e) U scores the least.

Directions (Questions 27 to 31) : Study the information given below and answer the questions that follow :

(Bank P.O. 1995)

- (i) A, B, C, D, E and F are six students in a class.
 (ii) B and C are shorter than F but heavier than A.
 (iii) D is heavier than B and taller than C.
 (iv) E is shorter than D but taller than F.
 (v) F is heavier than D.
 (vi) A is shorter than E but taller than F.
27. Who among them is the tallest ?
 (a) A (b) B (c) D (d) E (e) None of these
28. Who is third from the top when they are arranged in descending order of height ?
 (a) A (b) B (c) C (d) E (e) None of these