REASONING (HIGH LEVEL)

It is widely held that Bank Probationary Officers & Specialist Officers Exams, conducted by Central Recruitment and Promotion Department (State Bank of India and SBI Associates), Institute of Banking Personnel Selection (IBPS), Reserve Bank of India, and other agencies occupy an important place amongst all the Objective Type Exams. Bank Probationary Officers are considered as the highly esteemed officials getting handsome remuneration. Besides, the banking sector provides perhaps the best opportunity for the growth of career. Bank Probationary Officers may reasonably expect to reach the top most position in hierarchy, which is not possible in the case of other Government services. However, the Bank P.O. Exam is not so easy and the competition is really stiff. The nature and pattern of questions in Bank P.O. Exams also tells the same story. The questions based on conceptual framework, in real sense, pose great challenge for the candidates. Apart from these facts, it is worthy to note that the number of candidates appearing in Bank P. O. Exams is not only very large but also increasing leaps and bounds. At the same time it should be remembered that if one follows deligent practice schedule with concerted efforts it is not difficult to crack the nut even if you are not endowed with extra ordinary merit and I Q (Intelligent Quotient).

To sum up, one must follow well-thought strategy and planned practice schedule in order to succeed in the Bank P. O. Exams.

VERBAL REASONING

The subject-matter of Reasoning may be classified into two broad sections – Verbal and Non-Verbal. As a matter of fact, Verbal Section is accorded greater weightage in the competitive examinations.

Change is the rule of nature. Some changes are effected in almost everything which has to grow, develop and survive. Survival of anything is very much dependent on the favourable changes effected in it. For the same reason, nature of questions, standard and pattern of questions etc. keep on changing in the course of time. The portion which is considered to be obsolete or out-dated (irrelevant) is replaced with the new and relevant portion. The same philosophy is applicable in the case of Bank P.O. Exams and hence, we can notice certain perceptible changes in the Verbal Section of the Reasoning Test Paper also.

Nowadays, Bank Probationary, Management Trainee, Management Executive and Special Officer Examinations are being conducted online and no question is asked from Non-Verbal Section. The standard of questions of Verbal Section is being raised continuously and more complex questions are asked in the Bank PO Examinations. Although the topics of Verbal Section have been retained but the nature of questions has been changed definitely. Therefore, the element of strenuous practice has attained importance besides the proper knowledge of the subject matter.

The subject-matter and coverage of the Verbal Section can be broadly organised under 21-22 major heads. However, this classification is not exclusive and it is generally observed that some of the questions can be classified under two or three heads reasonably.

The questions on Verbal Section are meant to test the reasoning ability or logical deduction ability of the candidates rather than intelligent quotient (IQ). Intelligence itself is a complex characteristic. No extra quality is needed for solving questions in Verbal section. It is futile to develop a fear psychosis over such questions. Since questions are asked from diverse fields, it may be difficult to gain expertise over each and every type of questions. However, with comprehensive practice, one can certainly train the mind to acquire adequate skills to tackle a majority of these questions. Spend sufficient time in getting the crux of the problem before attempting the questions. Since most of the questions employ complicated and confusing language, it is prudent to use visual support for better and quicker understanding. Supposedly, one can draw a rough sketch to expedite the comprehen-sion process. Getting the facts of the questions on paper may take a few more minutes but once the intricacies are well understood, answering becomes simpler and faster.

In reasoning questions, resorting to guess work or working backwards by eliminating the options may not always work. Try not to adopt these techniques since chances of success are slim. One may only end up misusing precious time.

Verbal Reasoning incorporates in itself the properties like skill in language and the capacity to infer something logically: **reasoned thinking or reasoned conclusion which must be valid**. The key to Verbal Reasoning is to arrive at thoughtful and logically convincing conclusion on the basis of information provided in the question itself. Though in few questions rules of logic are employed to work out the solution but a major chunk of questions requires proper and systematic approach which can be attained by developing the spirit of enquiry and thinking on the basis of something which can support your view beyond a reasonable doubt. The questions pertaining to analytical reasoning require the knowledge and understanding of some basic rules of logic while other types of questions can be solved by following stepwise procedure. However, the most important fact

still remains unresolved? How can one solve all the questions correctly within the **ambit** of stipulated time? While discussing the way to solve most of such questions, we shall seek the answer to this basic question. In this context we come by the word **correctly** which evokes much sensation and commands extra consideration. The questions usually remain complex and options confusing or rather fairly close, every option seems to be correct from one or the other point of view. But bare truth is that only one is correct in all the respects or that one is more preferable in comparison to others. In finding such an option a cautious approach consisting of systematic steps are needed. But again, that process may be lengthy one, which should not be stuck to for a quicker solution.

Taking into account all these facts and the difficulties which may come to fore while solving reasoning questions in the exam, we have prepared the present **Synopsis on Verbal Reasoning**.

The present Synopsis will show you how to start your preparation for Reasoning Test Paper. The following discussion on Verbal Reasoning is a synopsis and as such it cannot be taken as a complete guide book.

The best approach to perform better in Verbal Reasoning section is to scrupulously follow instructions, identify the root of the problem and to work with a cool and cautious mind. Instead of rushing to answer choices one should ponder over the situation/question for a few seconds, develop an insight into what is being asked and then try to work out the question. There remains invariably one key aspect to every question which needs to be identified. The faster one can do it, the better it is.

Questions in Reasoning test paper are designed to be 'speed brakers'. Spending undue time on a single question may affect performance in other test papers. In case you feel the solution is evading you in a particular question, skip it and come back later, if time permits. Since some questions may be confusing and misleading in language, coming back to them with a fresh thought and a new approach may make the exercise much simpler and easy to solve. Do not ever get emotionally attached to a particular problem. On most occasions we make it an ego issue to solve a particular tricky question, but that does not help us given the stringent time constraints.

ALPHABET

Questions based on English alphabet are relatively easier and these questions may acquire different formats. In other words, various types of questions are set on English alphabet, such as:

(i) Formation of words using the specified letters of a keyword.

(ii) Questions on Alphabet Series and Alphabetical Quibble.

(iii) Pointing out the pairs of letters in a keyword which have as many letters between them in the word as in the alphabet.

(iv) Arrangement of words in alphabetical order.

In SBI Associate Banks P.O. Exam (21.07.2002) a new type of questions was asked on Alphabet. To comphrened the nature of these questions consider the following examples :

Directions (1-5) : The English alphabet is categorised into 5 groups, each starting with a vowel and encompassing the immediately following consonants in the group. Thus, the first group would have letters A, B, C and D; the second E, F, G and H; and so on. These groups are assigned values as 10 for the first, 20 for the second and so on, up to 50 for the last. Every letter in a particular group will have the same value of the group when used to form words, the value of each letter should add upto compute the value of the word. If the word has letters only from the same group, the value of the word would be the value of the letter multiplied by the number of letters in the word. However, if the letters in a word are from different groups, the value of the **First** letter of the word and any other letter of that group will be the same as that of its group, but that of the subsquent letter will be 'double' as much as the value of its group.

For example : The value of 'CAB' will be 30 (i.e., 10 + 10 + 10) as all the three letters are from the **first** group, each one having a value of 10.

The value of 'BUT' will be 10 + (50 × 2) + (40 × 2) = 190.

Now, find out the value of each word in the following questions :

1. AGE
(1) 50 (2) 90
(3) 60 (4) 70
(5) None of these

2. QUEUE
(1) 140 (2) 280
(3) 320 (4) 360
(5) None of these

3. SPORT
(1) 200 (2) 360
(3) 380 (4) 250
(5) None of these

4. HIGH
(1) 40 (2) 60
(3) 70 (4) 80
(5) None of these

5. SHOP
(1) 70 (2) 120
(3) 130 (4) 140
(5) None of these

EXPLANATIONS

(1-5) : Frist group ⇒ A, B, C, D ⇒ the value of each letter is 10.
Second group ⇒ E, F, G, H ⇒ the value of each letter is 20.
Third group ⇒ I, J, K, L, M, N ⇒ the value of each letter is 30.
Fourth group ⇒ O, P, Q, R, S, T ⇒ the value of each letter is 40.
Fifth group ⇒ U, V, W, X, Y, Z ⇒ the value of each letter is 50.

1.(2) A ⇒ 10
U ⇒ 20 × 2 = 40
E ⇒ 20 × 2 = 40
Therefore,
AGE = 10 + 40 + 40 = 90

2.(3) Q ⇒ 40
U ⇒ 50 × 2 = 100
E ⇒ 20 × 2 = 40
Therefore, QUEUE
= 40 + 100 + 40 + 100 + 40
= 320

3.(1) All the letters of the word SPORT belong to the fourth group. Therefore,
SPORT = 5 × 40 = 200

4.(5) H ⇒ 20
I ⇒ 30 × 2 = 60
G ⇒ 20
Therefore,
HIGH = (20 × 3) + 60
= 60 + 60 = 120

5.(5) S ⇒ 40
H ⇒ 20 × 2 = 40
O ⇒ 40
P ⇒ 40
Therefore, SHOP = 4 × 40 = 160

(i) New Word Formation

In this type of questions you are required to form meaningful word(s) using the specified letters of a keyword using each letter only once. Thus, in this type of questions a key word is given and some letters of that word are singled out. With the help of those letters you are required to form a new meaningful word and then, point out the required letter of the word so formed. These questions, thus test your vocabulary. Generally, simple and common words are asked and, therefore, you can solve these questions easily. However, sufficient practice is necessary to save time.

Now consider the following example:

1. If it is possible to make a meaningful English word with the seventh, the tenth and the fourth letters of the word 'ARISTOPA-THOLOGY' and the only vowel from the word 'TOP', the third letter of that word is your answer. If more than one English word can be formed, 'M' is your answer. If no such word can be formed, your answer is 'N'.
(1) O (2) P
(3) S (4) M
(5) N

Answer : (4)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	R	I	S	T	O	P	A	T	H	O	L	O	G	Y

T O P

Now, specified letters ⇒ S, P, H and O
Meaningful words ⇒ POSH, SHOP

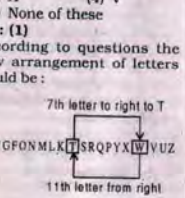
(ii) Alphabet Series

In this type of questions a sequence of English alphabets (either individual letter series or a sequence of combination of letters) is provided, which are usually called TERMS of the sequence. All the terms in the sequence follow a certain pattern throughout the series. The candidates are required to recognise this pattern and either complete the series with most suitable alternative or find out the wrong term in the series. The questions based on English alphabets generally harp on the relative positions of alphabets. Therefore, you should remember the position (number) of each alphabet both from left to right and from right to left. If you do know the position number of any alphabet from left to right, then you can determine its position in the reverse order of alphabets (i.e. from right to left) by subtracting that position number from 27.

1. Starting From A, groups of 5 letters each of the following alphabets are made, the letters in each group are arranged in reverse order, what will be the seventh letter to the right of the eleventh letter from the right and after the rearrangement?
A B C D E F G H I J K L M N
O P Q R S T U V W X Y Z
(1) W (2) C
(3) X (4) V
(5) None of these

Answer : (1)

According to questions the new arrangement of letters would be :



(iii) Relative Distance Between Pairs of Letters

In this type of questions you are required to ascertain the relative positions of letters of English alphabet and the relative distance between two letters in term of number of letters present in between the two letters in the keyword as well as in the English alphabet. Thus, you are required to find out such pairs of letters in the given word which do have as many letters between them in the word as in the alphabet.

1. How many pairs of letters are there in the word GRANDMOTHER which have as many letters between them in the word as in alphabet?
(1) One (2) Two
(3) Thre (4) Four
(5) None of these

Answer : (2)

7	18	1	14	4	13	15	20	8	5	18
G	R	A	N	D	M	O	T	H	E	R

(iv) Arrangement of Words in Alphabetical Order

In this type of questions, some words are given. The candidate is required to arrange them as per dictionary in order to answer the question asked. We know that in a dictionary the words are arranged in alphabetical order. Therefore, you must know the basics of the 'Dictionary Usage'. The words beginning with the same letter of English alphabet are again arranged in alphabetical order with respect to the second letter of words and so on. In order to solve such questions, first of all observe the first letter of each word. If the first letter is the same, observe the second letter and so on till you get the required arrangement of the words. In order to comprehend this point observe the following examples:

1. If the letters in each of the following five words are first rearranged in the alphabetical order and then the groups of letters so formed are rearranged as in a dictionary,

which word would have its group of letters in the MIDDLE among the five?

(1) Code (2) Lack
(3) Meet (4) Deaf
(5) Road

Answer : (5)

Code ⇒ cdeo; Lack ⇒ ackl;
Meet ⇒ eemt; Deaf ⇒ adef;
Road ⇒ ador

Arrangement of words according to Dictionary :

ackl → adef → **ador** → cdeo → lemt

Middle word ⇒ **ador** ⇒ Road

SERIES

A series or sequence consists of several terms. In other words, the units of a sequence are called TERMS. Each term in the series has its own importance as there exists certain relationship between the two consecutive terms. All the terms in the sequence follow a certain pattern throughout the sequence in most cases. We come across several types of questions based on any given series. In order to solve such questions you must recognise the pattern of the given series. The questions based on English alphabet series are somewhat easy as you can remember the position of each alphabet readily. But in the case of mixed series or jumbled series, it is very difficult to remember the position of each term.

A mixed series comprises letters, numbers and symbols and unlike the English alphabet series the number of terms is not fixed in such series. A mixed series may contain any number of terms viz. 23, 24, 26, 28, 30, 31 or 32. Such questions require sufficient practice as there is no definite SHORT CUTS for these questions. The questions on mixed series can be divided into two major heads :

I. Series of letters and numbers, and

II. Series of letters, numbers and symbols.

Questions on mixed series tend to judge how quickly you can identify the relationship amongst the given terms (letters, numbers and symbols). Such questions can be solved quickly by counting the terms very fast.

Some Important Tips

(i) First of all, count the terms in the given series.

(ii) Pin point the middle term, if any.

(iii) Write down the total number of letters, numbers and symbols respectively.

(iv) Form the groups of five terms, counting from either end so that you can recognise the position of the required term quickly.

Series Consisting of Letters & Numbers

Directions (1-2) : Study the following sequence carefully and answer the questions given below :

M E 5 P B 2 A 7 K N 9 T R U 4 6
I J D F 1 Q 3 W 8 V I S Z

1. Which of the following letter/number is the eighth to the left of the nineteenth letter/number from the left end?
(1) N (2) T
(3) I (4) D
(5) None of these

2. Four of the following five are alike in a certain way with regard to their position in the above sequence and so form a group. Which is the one that **does not** belong to that group?
(1) WIQ (2) PAE
(3) NR7 (4) 4JR
(5) D16

EXPLANATIONS

(1-2) :

(i) There are altogether 29 elements.
(ii) There are 20 letters.
(iii) There are 9 digits.
(iv) The middle element is '4'.

1.(1) 8th to the left of 19th element from left means
19 – 9 = 10th element from the left.

M E 5 P B 2 A 7 K **N** 9 T R U .....
10th element from left

2.(5) W →(+3) I →(–5) Q
P →(+3) A →(–5) E
N →(+3) R →(–5) 7
4 →(+3) J →(–5) R
But,
D →(+2) 1 →(–5) 6

Series Consisting of Letters, Numbers & Symbols

In order to make series more complicated, letters and numbers are combined with different symbols. Consider the following examples :

Directions (3-5) : Study the following arrangement carefully and answer the questions given below :

B A 5 D % R I ★ F H 6 # V 9 S 3
E 7 G 1 + 2 M K X 8 U F W Z N

3. Which of the following is exactly in the middle of the eleventh from the left end and the fifteenth from the right end ?
(1) V (2) S
(3) 7 (4) E
(5) None of these

4. Four of the following five are alike in a certain way based on their position in the above arrangement and so form a group. Which is the one that does not belong to that group?
(1) EGS (2) RFD
(3) 127 (4) XUM
(5) H#★

5. How many such numbers are there in the above arrangement each of which is immediately preceded by a consonant and not immediately followed by a symbol ?
(1) None (2) One
(3) Two (4) Three
(5) More than three

EXPLANATIONS

(3-5) :

(i) There are altogether 31 elements.
(ii) There are 18 letters.
(iii) There are 8 digits.
(iv) There are 5 symbols.
(v) The middle element, i.e., 16th from either end is 3.

3.(5) 11th from the left end ⇒ 6
15th from the right end ⇒ E
Remaining elements between 6 and E

V [9] $ 3
↓
Middle

4.(2) E $\xrightarrow{+2}$ G $\xrightarrow{-4}$ $
1 $\xrightarrow{+2}$ 2 $\xrightarrow{-4}$ 7
X $\xrightarrow{+2}$ U $\xrightarrow{-4}$ M
H $\xrightarrow{+2}$ # $\xrightarrow{-4}$ ★
But, R $\xrightarrow{+3}$ F $\xrightarrow{-5}$ D

5.(2)

Consonant	Digit	Symbol

There is only one such combination : X8U

ANALOGY

Usually two to three questions are asked in Bank P.O. Examinations from Verbal Analogy in addition to questions on Non-Verbal Analogy. Analogy is an important section of Reasoning because it is that section through which examiners test the candidate's ability to compare and establish proper relationship among the given items on the basis of certain commonality. In case of question on Non-Verbal Analogy, it is very easy to recognise the common features between the given figures owing to certain limitations. Figures may have similar movement, rotation, orientation, shape, size, etc. and if you are able to observe these features you can select appropriate answer quickly. But in case of question on Verbal Analogy it is not possible to delimit the types of relationship which might exist between the given items. Apart from common types of relationship, sometimes unusual type of relationship is provided in the questions. Therefore, the chapter on Analogy is aimed not only at testing your reasoning ability but also overall knowledge, IQ, as well as the power of decision making.

Questions on Analogy cover almost all types of relationship or commonality that one can think of and which we generally observe in our day to day life.

1. 'Necklace' is related to 'Jewellery' in the same way as 'Shirt' is related to .....
   (1) Cloth (2) Cotton
   (3) Apparel (4) Thread
   (5) Ornament
2. 'Bouquet' is related to 'Flowers' in the same way as 'Sentence' is related to .....
   (1) Letters
   (2) Paragraph
   (3) Content (4) Words
   (5) Construction
3. Water is related to Flood, in the same way Disease is related to
   (1) Hospital
   (2) Contamination
   (3) Epidemic
   (4) Death
   (5) Havoc

EXPLANATIONS

1.(3) Necklace is a type of jewellery. Similarly, shirt is an apparel.

2.(4) Bouquet is made of different types of flowers. Similarly, sentence is made of words.

3.(3) The overflow of water cause flood. Similarly, the acute from of disease is epidemic.

CLASSIFICATION

CLASSIFICATION means 'to assort the items of a given group on the basis of certain common quality they possess and then spot the odd one out'. In this way, questions on Classification are not much different from those of the questions on Analogy. The difference between these two types of questions lies only in the way of selecting the answer. In case of questions on Analogy you are required to select the item which bears similar relationship as that given in the question. But in the case of questions on classification you are required to assort the items which have some common quality and then spot the one and only one item which lacks that common quality. Thus, in the case of questions on Classification also you are required to determine diverse relationships which possibly can exist between various elements, things, phenomena, acts and terms.

In this type of questions, you are provided with a group of five items, one of which shows different property while the rest are related to one another in a certain way or they bear certain common characteristics. Your task is to select the item which does not belong to the group of other items. In this context, it is important to note that the candidates must know the types of similarities which possibly can exist among the given items.

1. Four of the following five are alike in a certain way and hence form a group. Which is the one that does not belong to the group?
   (1) Earth (2) Saturn
   (3) Moon (4) Sun
   (5) Jupiter
2. Four of the following five are alike in a certain way and hence form a group. Which is the one that does not belong to the group?
   (1) Earth
   (2) Saturn
   (3) Moon
   (4) Mars
   (5) Jupiter

Explanation :

In the example (1) Sun is the odd one because all others are revolving heavenly bodies while the position of Sun is fixed. Earth, Saturn and Jupiter are planets which revolve round the Sun whereas Moon is a satellite which revolves round the planet, Earth.

In the example (2), Moon is the odd one because all others are planets and Moon is a satellite.

Below are given some more examples :

1. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group ?
   (1) Cat (2) Dog
   (3) Lion (4) Jackal
   (5) Horse

2. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group ?
(1) Horse (2) Tiger
(3) Giraffe (4) Lion
(5) Zebra

3. Four of the following five have similar relationship and hence form a group. Which one does not belong to the group ?
(1) BROTHER : DORVEHT
(2) ENGLISH : GGNNSIJ
(3) ANOTHER : CONVEHT
(4) BETWEEN : DTEZEEP
(5) HUSBAND : JSUDNAF

4. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group ?
(1) 170 (2) 226
(3) 120 (4) 290
(5) 362

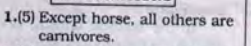
5. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group ?
(1) 49 (2) 45
(3) 79 (4) 37
(5) 65

EXPLANATIONS

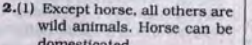
1.(5) Except horse, all others are carnivores.

2.(1) Except horse, all others are wild animals. Horse can be domesticated.

3.(4) **Option (1)**



Option (2)



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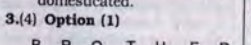
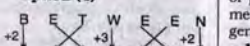
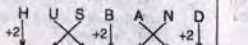


Option (4)



Option (5)



4.(3) Except 120, all other numbers are one more than the square of certain numbers. Thus,
$170 = (13)^2 + 1$
$226 = (15)^2 + 1$
$290 = (17)^2 + 1$
$362 = (19)^2 + 1$
But, $120 = (11)^2 - 1$

5.(1) The number 49 is a perfect square.

CODING/DECODING

A CODE is 'a system of signals'. Coding is, therefore, a method of transmitting a message between the sender and the receiver which third person cannot understand or comprehend. The coded message can be deciphered or decoded by the receiver as he/she knows the rule/method which was employed in encoding the message. Thus, the CODING-DECODING test is given to judge the candidate's ability to decipher the rule which is applied for coding a particular message and break the code to reveal the message. In this type of questions some words or a group of letters and their coded forms are provided and you are required to find out the rule of coding so that you can either encode or decode another word or another group of letters in similar fashion. Any word/message/a group of letters can be coded in a variety of ways. Generally, each question is based on a particular rule of coding. Therefore, clues of a particular question are not applicable to the other questions.

The coding pattern may be based on individual alphabet/words and digits/numbers. The code of a particular letter could be following or preceding letter, the letters of a meaningful word can be jumbled to generate code and so on.

1. In a certain code language HANDSOME is written as IBOCRNNF. How will the word EPIDEMIC be written in that code language ?
(1) FQJCDNJ
(2) FQJCDLJD
(3) FQJEDLHB
(4) FQHCFNHB
(5) None of these

2. In a certain code language 'OMNIPRESENT' is written as 'QJONPTSMDRD'. How is 'CREDIBILITY' written in that code ?
(1) JEFSDCXSHKH
(2) JEFSDDXSHKH
(3) DSFEJDDXSHKH
(4) JEFSDDZUJMJ
(5) None of these

Directions (3-5) : Study the information and answer the following questions:

In a certain code language —
'economics is not money' is written as, **'ka la ho ga'**
'demand and supply economics' is written as, **'mo ta pa ka'**
'money makes only part' is written as, **'zi la ne ki'**
'demand makes supply economics' is written as, **'zi mo ka ta'**

3. What is the code for "money" in the given code language ?
(1) ga (2) mo
(3) pa (4) ta
(5) la

4. What is the code for "supply" in the given code language ?
(1) only ta
(2) only mo
(3) either pa or mo
(4) only pa
(5) either mo or ta

5. What may be the possible code for "demand only more" in the given code language ?
(1) xi ne mo
(2) mo zi ne
(3) ki ne mo
(4) mo zi ki
(5) xi ka ta

[3 to 5 : SBI PO Exam, 28.04.2013]

Directions (6-7): Study the following information carefully and answer the questions given below :

The consonants of English alphabet have been coded by using digits 1 to 8 and the vowels have been coded by using different symbols.

Letters	G	B	K	H	Z	M	F
	R	V	C	S	D	Q	X
	J	N	T	L	W	Y	P
Digit	5	4	1	3	2	8	7

If any vowel is not in the beginning nor in the last, it is coded as '6'. If any vowel is at the beginning or in the last, it is coded as '9'. However, if the same vowel is placed at both beginning and in the last, it is coded as '$' at both the places.

How the following letter-groups will be coded?

6. PKDEJHI
(1) 7126539 (2) 7129539
(3) 7126539 (4) 7128539
(5) None of these

7. AFDQENI
(1) 9728649 (2) $728649
(3) 9728949 (4) 6728949
(5) None of these

8. In a certain code, '243' represents 'how are you', '631' represents 'will you come' and '928' represents 'how about him'. Which of the following represents 'are' in that code ?
(1) 4 (2) 2
(3) 3 (4) 2 or 3
(5) None of these

9. In a certain code language GAME is written as '$ ÷ ★ %' and BEAD is written as '# % ÷ ×'. How the word MADE be written in that code language?
(1) $ ÷ × % (2) ★ ÷ $ %
(3) ★ ÷ × % (4) # ÷ × %
(5) None of these

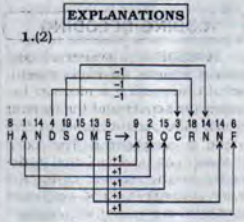
10. In a certain code language 'MEAL' is written as '$£*@' and 'SAFE' is written as '●*+£'. How is 'FAME' written in that code language ?
(1) + * $ E (2) * + $ @
(3) + * @ $ (4) £ @ * +
(5) None of these

11. If 'white' is called 'rain', 'rain' is called 'green', 'green' is called 'blue', 'blue' is called 'cloud', 'cloud' is called 'red', 'red' is called 'sky', 'sky' is called 'yellow' and 'yellow' is called 'black', what is the colour of 'blood' ?
(1) Red (2) Blue
(3) Cloud (4) Sky
(5) None of these.

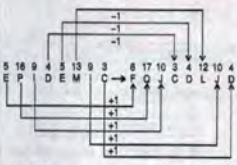
12. If 'green' is called 'white', 'white' is called 'yellow', 'yellow' is called 'red', 'red' is called 'orange', then which of the following represents the colour of sunflower?
(1) red (2) yellow
(3) brown (4) indigo
(5) None of these.

EXPLANATIONS

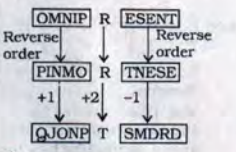
1.(2)



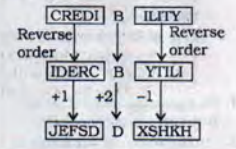
Similarly,



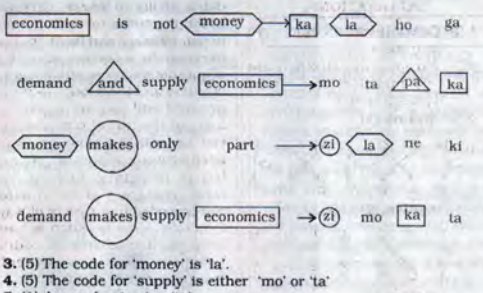
2.(2)



Thus,
OMNIPRESENT ⇒ QJONPTSMDRD
Similarly,



(3 - 5) :



3. (5) The code for 'money' is 'la'.
4. (5) The code for 'supply' is either 'mo' or 'ta'
5. (1) demand ⇒ 'mo' or 'ta'
only ⇒ 'ne' or 'ki'
The code for 'more' may be 'xi'

6.(3) P K D E J H I
↓ ↓ ↓ ↓ ↓ ↓ ↓
7 1 2 6 5 3 9

7.(1) A F D Q E N I
↓ ↓ ↓ ↓ ↓ ↓ ↓
9 7 2 8 6 4 9

8.(1) how are you → 2 4 3

will you come → 6 3 1

how about him → 9 2 8

It is clear that the code for 'are' is '4'.

9.(3) G A M E B E A D
↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
$ ÷ ★ % # % ÷ ×

Therefore,

M A D E
↓ ↓ ↓ ↓
★ ÷ × %

10.(1) M E A L S A F E
↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
$ £ * @ ● * ÷ £

Therefore,

F A M E
↓ ↓ ↓ ↓
÷ * $ £

11. (4) The colour of blood is red. But here red is called sky.

12. (1) The colour of sunflower is yellow. But here yellow is called red.

BLOOD RELATIONS

Questions on Blood Relationship are related to our day to day life. We are bound by our kith and kin through a chain of relationship. The examiner defines the simple relationships by using rather complicated set of definitions and expects from us to comprehend these definitions rather quickly. In order to solve these problems, analyse the given statements carefully and systematically. For examples :

(i) My father's only child means ⇒ I (Myself).

(ii) Ritu's husband's father-in-law's only daughter means ⇒ Ritu (Herself).

Pay particular attention to the information given in the question itself without your personal biases and pre-conceived notions and assumptions coming to the fore. Questions on Blood Relationship can be solved by any of the following methods :

(i) Deduction Method and

(ii) Pictorial Method

While attempting questions on Blood Relationship, first read all the pieces of information as quickly as possible and then point out the two persons between whom relationship is to be established. Finally, try to co-relate the given relationships. While concluding relationship between two persons be careful about the sexes of the persons involved. Majority of the students tend to define or derive relationship without caring for sex of the persons. **Is it possible to define relationship between two persons without knowing their sex?**

Consider the following illustration :

A is the child of P and Q.

From this statement can we conclude that P is the father of A. No, it is not possible. Without knowing the sex of either P or Q, it is not possible to conclude that P is the father of A. What we can conclude from the above statement is that 'P and Q are parents of A'.

Thus, we see that the knowledge about the sex of persons is necessary to conclude relationship between the two persons.

1. Pointing to a woman in a photograph a man said, 'Her sister's father is the only son of my grandfather'. How is the man related to woman in the photograph?
(1) Uncle (2) Father
(3) Son (4) Brother
(5) Grandson

2. Pointing to a boy, Meena says, "He is the son of my grandfather's only son". How is the boy's mother related to Meena ?
(1) Mother (2) Aunt
(3) Sister
(4) Data inadequate
(5) None of these

Directions (3-4) : Read the information carefully and answer the following questions:

If A + B means A is the father of B

If A × B means A is the sister of B

If A $ B means A is the wife of B

If A % B means A is the mother of B

If A ÷ B means A is the son of B

3. What should come in place of the question mark (?) to establish that J is the brother of T in the expression ?
J ÷ P % H ? T % L
(1) ×
(2) ÷
(3) $
(4) Either ÷ or ×
(5) Either + or ÷

4. Which among the given expressions indicate that M is the daughter of D ?
(1) L % R $ D + T × M
(2) L + R $ D + M × T
(3) L % R % D + T ÷ M
(4) D + L $ R + M × T
(5) L $ D ÷ R % M + T

[SBI PO Exam, 28.04.2013]

EXPLANATIONS

1.(4) The father of woman's sister is the only son of man's grandfather. Therefore, the man is brother of the woman.

2.(1) Meena's grandfather's only son means father of Meena. Therefore, boy is the son of Meena's father. Thus, boy's mother is the mother of Meena.

3. (1) J ÷ P ⇒ J is the son of P.
P % H ⇒ P is the mother of H.
H × T ⇒ H is the sister of T.
Therefore, P is the mother of J, H and T.
J is the brother of T.

4. (2) Option (1)
L % R ⇒ L is the mother of R.
R $ D ⇒ R is the wife of D.
D + T ⇒ D is the father of T.
T × M ⇒ T is the sister of M.
The gender of M is not known.

M is either son or daughter of D.

Option (2)

L + R ⇒ L is the father of R.

R $ D ⇒ R is the wife of D.

D + M ⇒ D is the father of M.

M × T ⇒ M is the sister of T.

It is clear that M is the daughter of D.

Option (3)

L % R ⇒ L is the mother of R.

R % D ⇒ R is the mother of D.

D + T ⇒ D is the father of T.

T ÷ M ⇒ T is son of M.

D is husband of M.

Option (4)

D + L ⇒ D is the father of L.

L $ R ⇒ L is the wife of R.

R + M ⇒ R is the father of M.

M × T ⇒ M is the sister of T.

M is the granddaughter of D.

Option (5)

L $ D ⇒ L is the wife of D.

D + R ⇒ D is the son of R.

R % M ⇒ R is the mother of M.

M + T ⇒ M is the son of T.

M is the brother of D.

SYMBOLS AND NOTATIONS

In such type of questions some relationships are shown with the help of certain symbols/notations and/or mathematical signs. Each symbol or sign is defined clearly in the question statement itself. In other words, each symbol or sign is accorded two values—one real value and another assigned value. You are required to put the assigned value of each symbol or sign and then solve the questions accordingly. For example,

Suppose the triangle (Δ) means addition.

We know that triangle is a plane figure but here it has been assigned the value of addition (+). Thus.

3 Δ 5 ⇒ 3 + 5 = 8

In this way, to work out such questions substitute the assigned/implied meanings of the symbol or sign and proceed accordingly.

In this type of questions some statements are provided using English alphabets and symbols expressing certain information and some questions are asked on the basis of symbolic information. You are required to answer the given questions by analysing and co-relating the given information. Now consider the following examples :

Directions (1–3) : Read each statement carefully and answer the following questions :

1. Which of the following expressions will be true if the expression R > O = A > S < T is **definitely true** ?

(1) O > T (2) S < R

(3) T > A (4) S = O

(5) T < R

2. Which of the following should be placed in the blank spaces respectively (in the same order from left to right) in order to complete the given expression in such a manner that makes the expression 'A < P' **definitely false** ?

___ < ___ < ___ > ___

(1) L, N, P, A (2) L, A, P, N

(3) A, L, P, N (4) N, A, P, L

(5) P, N, A, L

3. Which of the following symbols should be placed in the blank spaces respectively (in the same order from left to right) in order to complete the given expression in such a manner that makes the expression 'F > N' and 'U > D' **definitely false** ?

F___O___U___N___D

(1) <, <, >, = (2) <, =, =, >

(3) <, =, =, < (4) ≥, =, =, ≥

(5) >, >, =, <

[SBI PO Exam, 28.04.2013]

Directions (4–6) : In the following questions, the symbols %, $, #, and @ are used with the following meaning as illustrated below :

'P % Q' means 'P is neither smaller than nor equal to Q'.

'P Q' means 'P is not greater than Q'.

'P $ Q' means 'P is not smaller than Q'.

'P # Q' means 'P is neither greater than nor equal to Q'.

'P @ Q' means 'P is neither greater than nor smaller than Q'.

4. Statements :

D R, R # M, M @ K, K % F

Conclusions

I. F $ M II. K @ R

III. K % R IV. D @ M

(1) None is true

(2) Only I is true

(3) Only II is true

(4) Only III is true

(5) Only IV is true

5. Statements :

R $ M, B @ A, A % K , K # M

Conclusions

I. M % A II. K $ B

III. A % R IV. K # R

(1) Only IV is true

(2) Only I and IV are true

(3) Only II and III are true

(4) Only I, III and IV are true

(5) None is true

6. Statements :

D # M, M $ R, R @ J , W % J

Conclusions

I. W % R II. M $ J

III. R % D IV. W % M

(1) Only II and III are true

(2) Only I and IV are true

(3) Only I and II are true

(4) Only III and IV are true

(5) All are true

[4 to 6 : SBI Management Executive Exam, 22.02.2014]

EXPLANATIONS

1. (2) R > O = A > S < T

O > T : Not True

S < R : True

T > A : Not True

S = O : Not True as O > S

T < R : Not True

2. (5) $P \leq N < A > L$

Now, $A > P$

3. (3) $F < O = U = N < D$

Now, $F < N$ and $U < D$

(4-6) :

- $P \,\%\, Q \Rightarrow P \not< Q : P \neq Q$

  Therefore, $P > Q$
- $P \,\square\, Q \Rightarrow P \not> Q \Rightarrow P \leq Q$
- $P \,\$\, Q \Rightarrow P \not< Q \Rightarrow P \geq Q$
- $P \,\#\, Q \Rightarrow P > Q : P \neq Q$

  Therefore, $P < Q$
- $P \,@\, Q \Rightarrow P \not> Q : P \not< Q$

  Therefore, $P = Q$

% ⇒ >	□ ⇒ ≤	$ ⇒ ≥
% ⇒ <	@ ⇒ =	

4. (4) $D \,\square\, R \Rightarrow D \leq R$

$R \,\#\, M \Rightarrow R < M$

$M \,@\, K \Rightarrow M = K$

$K \,\%\, F \Rightarrow K > F$

Therefore,

$D \leq R < M = K > F$

Conclusions :

I. $F \,@\, M \Rightarrow F \geq M$: Not True

II. $K \,@\, R \Rightarrow K = R$: Not True

III. $K \,\%\, R \Rightarrow K > R$: True

IV. $D \,@\, M \Rightarrow D = M$: Not True

5. (1) $R \,\$\, B \Rightarrow R \geq B$

$B \,@\, A \Rightarrow B = A$

$A \,\%\, K \Rightarrow A > K$

$K \,\#\, M \Rightarrow K < M$

Therefore,

$R \geq B = A > K < M$

Conclusions :

I. $M \,\%\, A \Rightarrow M > A$: Not True

II. $K \,\$\, B \Rightarrow K \geq B$: Not True

III. $A \,\%\, R \Rightarrow A > R$: Not True

IV. $K \,\#\, R \Rightarrow K < R$: True

6. (3) $D \,\#\, M \Rightarrow D < M$

$M \,\$\, R \Rightarrow M \geq R$

$R \,@\, J \Rightarrow R = J$

$W \,\%\, J \Rightarrow W > J$

Therefore,

$D < M \geq R = J < W$

Conclusions :

I. $W \,\%\, R \Rightarrow W > R$: True

II. $M \,\$\, J \Rightarrow M \geq J$: True

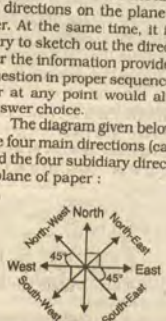
III. $R \,\%\, D \Rightarrow R > D$: Not True

IV. $W \,\%\, M \Rightarrow W > M$: Not True

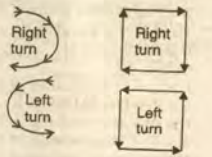
DISTANCE AND DIRECTION

In this type of questions a successive follow-up of directions and/or distance is formulated and on the basis of given information you are required to ascertain the final direction with respect to the starting point or the shortest distance between the starting point and the final point. Sometimes both the final direction and the distance covered are asked. Thus, in this test, the question consists of a sort of direction and/or distance puzzle. Obviously, such questions are meant to judge the candidate's ability to trace, follow and perceive the direction, described in somewhat complicated language, correctly. In order to solve such questions correctly you must have the knowledge of directions on the plane of a paper. At the same time, it is necessary to sketch out the directions as per the information provided in the question in proper sequence. An error at any point would alter your answer choice.

The diagram given below shows the four main directions (cardinals) and the four subidiary directions on a plane of paper :



Generally right and left turns are frequently employed in the questions in order to confuse the candidates. Remember that examiner does possess the uncanny knack and he/she may confuse you by making verbose statements also. But, there is nothing to panic. You may note that on the surface of paper, the direction of right turn is always clockwise and that of left turn is anticlockwise. Thus,



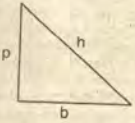
In order to determine the distance travelled or the shortest straight distance between the two given points, the Pythagoras formula

$h^2 = b^2 + p^2$ proves to be helpful.

Here, h = Hypotenuse

p = Perpendicular

b = Base



Now consider the following examples to understand the nature and pattern of the questions on Distance and Direction Test :

1. Alok walked 30 metres towards east and took a right turn and walked 40 metres. He again took right turn and walked 50 metres. Towards which direction is he from his starting point ?

(1) South

(2) West

(3) South-West

(4) South-East

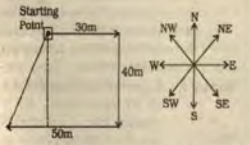
(5) None of these

2. A and B standing at a distance of 20 km. from each other on a straight East-West road. A and B start walking simultaneously, eastwards and westwards respectively, and both cover a distance of 5 km. Then A turns to his left and walks 10 km. 'B' turns to his right and walks 10 km. at the same speed. Then both turn to their left and cover a distance of 5 km. at the same speed. What will be the distance between them?

(1) 10 km. (2) 5 km.
(3) 20 km. (4) 25 km.
(5) None of these

EXPLANATIONS

1. (3)



It is clear from the diagram that Alok is in South-West direction from his starting point.

2. (1) It is mentioned in the question that A starts walking eastwards and B westwards. Therefore, A is at west end.

Now the distance between them is 10 km.

RANKING/ARRANGEMENT

In this type of questions a set of information pertaining to persons, objects or some other entities alongwith their qualities, which can be compared, is provided. Candidates are required to arrange the given entities in either ascending or descending order on the basis of relative quality. At first look, such questions appear to be very simple but sometimes these are made tricky by infusing intricacies and complicated data. However, one can organise the given data quickly and easily by comprehending the given information in systematic manner. Sometimes, the given information may seem to be insufficient but a cogent and coherent analysis of the same reveals useful clues and the problem turns to be very simple. You may also find some superfluous statements, which are given to confuse you. You can recognise such statements in no time if you have gained command over such types of questions.

Sometimes you are required to ascertain only the rank of a person either from top or bottom in a class or a group of persons. In determining the rank, the information about total number of persons in the class or a group is a prerequisite otherwise you cannot determine the rank. Sometimes the rank of a person from either end is given and you are required to calculate the total number of persons.

Consider the following examples:

1. Ajay's rank is twelfth from the top in his class. Prasad, who is eighteenth from the end in the class is lower in rank than Ajay by eight. How many students are there in the class ?

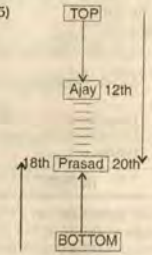
(1) 35 (2) 34
(3) 36
(4) Data inadequate
(5) None of these

2. Anup is fifteenth from the front in a column of boys. There were thrice as many behind him as there were in front. How many boys are there between Anup and the seventh boy from the end of the column ?

(1) 33 (2) 35
(3) 34
(4) Data inadequate
(5) None of these

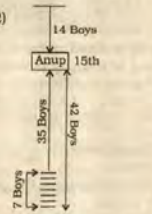
EXPLANATIONS

1.(5)



Total No. of students in the class = (18 + 20) – 1
= 38 – 1 = 37

2.(2)



In another type of questions on RANKING you are required to ascertain some other qualities such as height, weight, marks, age etc. In this type of questions on Ranking, the two extreme ends are occupied by the persons having the lowest and the highest degrees of quality that has to be compared. While solving such type of questions you should employ certain smybols and notations to organise the given information so that you can use

the data more conveniently and quickly too.

Now consider the following examples :

1. Kavita is taller than Jayesh but not as tall as Subodh. Subodh is shorter than Prabodh who is not as tall as Ashok. Who is the tallest in the group ?

(1) Ashok (2) Kavita
(3) Jayesh (4) Prabodh
(5) Subodh

Answer : (4)

Subodh > Kavita > Jayesh ...(i)

Ashok > Prabodh > Subodh ...(ii)

From both the statements it is clear that Ashok is the tallest.

INPUT

The questions on INPUT are solved by organising the given input line of words or numbers step by step by following a specific rule to arrive at the final step. Thus, in order to solve such questions first of all detect the rule of arrangement of words or numbers in each step. If you can detect the rule of arrangement, the questions based on INPUT become very easy. However, there is no fixed number of rules involved in these questions. Every set of questions follows a specific rule. Usually, the words of input line are arranged in the following manner:

(i) alphabetically or as per dictionary and

(ii) interchanging the positions of the words.

Directions (1-3) : Study the given information and answer the following questions :

When a word and number arrangement machine is given an input line of words and numbers, it arranges them following a particular rule. The following is an illustration of input and rearrangement:
(All the numbers are two digit numbers)

Input : 40 made butter 23 37 cookies salt extra 52 86 92 fell now 19

Step I : butter 19 40 made 23 37 cookies salt extra 52 86 92 fell now

Step II : cookies 23 butter 19 40 made 37 salt extra 52 86 92 fell now

Step III : extra 37 cookies 23 butter 19 40 made salt 52 86 92 fell now

Step IV : fell 40 extra 37 cookies 23 butter 19 made salt 52 86 92 now

Step V : made 52 fell 40 extra 37 cookies 23 butter 19 salt 86 92 now

Step VI : now 86 made 52 fell 40 extra 37 cookies 23 butter 19 salt 92

Step VII : salt 92 now 86 made 52 fell 40 extra 37 cookies 23 butter 19

Step VII is the last step of the above arrangement as the intended arrangement is obtained.

As per the rules followed in the given steps, find out the appropriate steps for the given input.

Input : 32 proud girl beautiful 48 55 97 rich family 61 72 17 nice life

1. How many steps will be required to complete the given input ?

(1) Five (2) Six
(3) Seven (4) Eight
(5) Nine

2. Which of the following is the third element from the left end of step VI ?

(1) beautiful (2) life
(3) 61 (4) nice
(5) 17

3. Which of the following is step III of the given input ?

(1) proud 72 girl 48 family 32 beautiful 17 55 97 rich 61 nice life
(2) life 55 girl 48 family 32 beautiful 17 proud 97 rich 61 72 nice
(3) girl 48 family 32 beautiful 17 proud 55 97 rich 61 72 nice life
(4) family 32 beautiful 17 proud girl 48 55 97 rich 61 72 nice life
(5) girl 48 life 55 family 32 beautiful 17 proud 97 rich 61 72 nice

[SBI PO Exam, 28.04.2013]

EXPLANATIONS

(1-3) : After careful analysis of the given input and various steps of rearrangement, it is evident that in each step one ward and one number are rearranged. The word which comes first in the dictionary is placed at the extreme left position followed by the lowest number. In the second step, the word which comes second in the dictionary is placed at the extreme left position followed by the second lowest number. The same process is continued till all the words get rearranged in the reverse order of English alphabet and all the numbers get rearranged in descending order.

Input : 32 proud girl beautiful 48 55 97 rich family 61 72 17 nice life

Step I : beautiful 17 32 proud girl 48 55 97 rich family 61 72 nice life

Step II : family 32 beautiful 17 proud girl 48 55 97 rich 61 72 nice life

Step III : girl 48 family 32 beautiful 17 proud 55 97 rich 61 72 nice life

Step IV: life 55 girl 48 family 32 beautiful 17 proud 97 rich 61 72 nice

Step V: nice 61 life 55 girl 48 family 32 beautiful 17 proud 97 rich 72

Step VI: proud 72 nice 61 life 55 girl 48 family 32 beautiful 17 97 rich

Step VII: rich 97 proud 72 nice 61 life 55 girl 48 family 32 beautiful 17

1. (3) Seven steps will be required to complete the given input.

2. (4) The third element from the left end of Step VI is 'nice'.

3. (3) Option (3) is the step III of the given input.

SYLLOGISM

Syllogism is a noun which means 'form of reasoning in which a conclusion is drawn from two statements, i.e., deductive reasoning. In more clear terms, **Syllogism** is a mediate deductive inference in which two propositions are given in such an order that they jointly or collectively imply the third. Thus, **Syllogism** can be defined as 'a form of reasoning in which the conclusion establishes a relation between two terms on the basis of both terms being related to the same third term as derived in the premises'. For example,

1. All human beings are mortal.

2. The child is a human being.

3. The child is mortal.

The conclusion is reached through the medium of a middle term, i.e., 'human being', with both Subject (children) and the Predicate (mortal). Therefore, in a Syllogism two premises are necessary to arrive at a conclusion.

In Syllogism, we are concerned about only Categorical Propositions. Categorical Propositions can be analysed as assertions about classes, affirming or denying that a class **S** is included in class **P**, either in whole or in part. Broadly speaking there are two major forms of Categorical Propositions :

1. Universal Categorical Proposition and

2. Particular Categorical Proposition

1. Universal Proposition : Universal Propositions either fully include or fully exclude the Subject. For example,

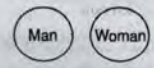
I. All politicians are liars.

It is denoted by capital letter **A.**

Here, the inclusion of members of a class into another class is complete and hence universal.

II. No man is woman.

It is denoted by capital letter **E.**

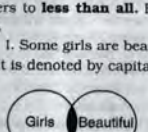


Here, one class is completely excluded from the second.

2. Particular Proposition : Particular Propositions either only partly include or only partly exclude the Subject while making a statement. Thus, in this type of Propositions the Subjective term refers to **less than all.** For example,

I. Some girls are beautiful.

It is denoted by capital letter **I.**



The Proposition stands for only the shaded portion.

II. Some politicians are not liars.

It is denoted by capital letter **O.**

Distribution of Terms

The word 'Distribution' is meant to characterise the ways in which terms can occur in Categorical Propositions. A Proposition distributes a term if it refers to all members of the class designated by the term. In other words, if a term refers to all the members of the class for which it stands, it is said to be distributed term.

Propositions	Distribution of Term	
	Subject	Predicate
A-Proposition (Universal) Affirmative)	Distributed	Not Distributed
E-Proposition (Universal Negative)	Distributed	Distributed
I-Proposition (Particular Affirmative)	Not Distributed	Not Distributed
O-Proposition (Particular Negative)	Not Distributed	Distributed

Analytical Method for Deriving Conclusion

Analytical Method for deriving valid Conclusions (rather say determining the validity of a Categorical Argument) consists of following simple steps :

Step I : Alignment of the Premises : It is well known that if there is no Middle Term, no Conclusion follows. Therefore, in the given Premises there should be a common term. By alignment of the Premises we mean that the two Premises should be written in such a way that the common term (M) is the Predicate of the first Premise and it is the Subject of the second Premise.

If the given Premises are not already aligned, we can align them by :

(i) changing the order of the Premises and/or

(ii) converting one of the Premises.

Now consider the following examples :

1. Premises :

(1) No photo is coloured.

(2) Some books are photos.

Explanation : We can align these Premises by changing the order of the Premises. Thus,

(1) Some books are photos.

(2) No photo is coloured

2. Premises :

(1) All plates are spoons.

(2) Some cups are plates.

Explanation : We can align the Premises by changing the order of the Premises. Thus,

(1) Some cups are plates.

(2) All plates are spoons.

Conversion becomes necessary when the Middle Term (M) is either Subject in both the Premises or the Predicate in both the Premises. In such a case we have to convert one of the Premises. Here, obvious question arises, Which of the two Premises be chosen for conversion? The answer to this question lies in the following rule of the Conversion:

Order of Conversion

$\Rightarrow I \rightarrow E \rightarrow A$

If in the given pair of Premises, one is I-Proposition and another E-Proposition, then the I-Proposition should be converted.

Step II : Inference Chart : After the alignment, refer to the following chart to draw valid Conclusion :

First Premise	Second Premise	Valid Conclusion
A-Proposition	A-Proposition	A-type
A-Proposition	E-Proposition	E-type
E-Proposition	A-Proposition	O_1-type
E-Proposition	I-Proposition	O_1 -type
I-Proposition	A-Proposition	I-type
I-Proposition	E-Proposition	O-type

Note : (i) We see that we get valid Conclusions only from six combinations.

(ii) The chart gives correct results **if and only if** the two given Premises have been properly aligned.

FORMAT OF THE CONCLUSION

While deriving Conclusion by referring to the above chart, it is important to note the format of the Conclusion.

I. The Subject of the Conclusion should be the Subject of the first Premise and the Predicate of the Conclusion should be the Predicate of the second Premise (after alignment). For example :

Premises :

(1) All **girls** are dancers.
S_1

(2) No dancer is **singer**
P_2

Conclusion : No girl is singer.

Explanation : The given Premises are already aligned.

From the chart :

$A + E \rightarrow E$-type Conclusion.

Thus, according to the format of the conclusion.

No girl is singer.
S_1 P_2

II. In the case of O_1 type Conclusion, the Subject of the Conclusion is the Predicate of the second Premise and the Predicate of the Conclusion is the Subject of the first Premise.

For example :

Ex. 1. Premises :

(1) No **book** is pencil.
S_1

(2) Some pencils are **copies**.
P_2

Explanation : The given Premises are already aligned.

From the chart

$E + I \rightarrow O_1$ type Conclusion.

Conclusion according to the format

Some **copies** are not **books**.
P_2 S_1

Step III : To Check Immediate Inference : After determining the validity of given Conclusions, check for any immediate inferences—Conversion and/or implication.

Step IV : Evaluate Complementary Pair : This Step is applicable to only those Conclusions which do not follow from Steps II and III. If one of the Conclusions has already been found to be valid in Step II or III, this Step is not required, if there are only two Conclusions.

Two Propositions made a Complementary Pair, if :

(i) both of them have the same Subject and the same Predicate and

(ii) there are an I-O type pair or an A-O type pair or an I-E type pair.

For example :

$I \rightarrow$ Some books are pens

$O \rightarrow$ Some books are not pens.
(Complementary pair)

$A \rightarrow$ All boys are players.

$O \rightarrow$ Some boys are not players.
(Complementary pair)

$I \rightarrow$ Some girls are dancers.

$E \rightarrow$ No girl is dancer.
(Complementary pair)

Remember that in a Complementary Pair at least one of the Conclusions is always true and therefore if you find a Complementary pair, then mark the choice "*either I or II* follows" to be true.

Directions (1–3) : In each of the questions below are given four statements followed by four Conclusions numbered I, II, III and IV. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read all the Conclusions and then decide which of the given Conclusions logically follows from the given statements disregarding commonly known facts.

1. Statements :
All hills are roads.
All roads are stones.
All stones are jungles.
All jungles are rivers.
Conclusions :
I. Some rivers are stones.
II. Some jungles are hills.
III. Some stones are hills.
IV. All rivers are jungles.
(1) Only I and II follow
(2) Only II and III follow
(3) Only I, II and III follow
(4) Only II, III and IV follow
(5) All follow

2. Statements :
Some books are pens.
Some pens are glasses.
Some glasses are plates.
Some plates are bottles.
Conclusions :
I. Some bottles are books.
II. Some glasses are books.
III. Some plates are glasses.
IV. Some bottles are pens.
(1) Only I and II follow
(2) Only III follows
(3) Only I, II and III follow
(4) Only III and IV follow
(5) Only IV follows

3. Statements :
Some petals are flowers.
All flowers are desks.
Some desks are cards.
All cards are trains.
Conclusions :
I. Some desks are flowers.
II. Some desks are petals.
III. Some petals are cards.
IV. Some desks are trains.
(1) Only I and IV follow
(2) Only II, III and IV follow
(3) Only III and IV follow
(4) Only I, II and III follow
(5) Only I, II and IV follow

EXPLANATIONS

(1–3) :

(i) All pens are books → Universal Affirmative (A-type).

(ii) Some chairs are desks → Particular Affirmative (I-type).

(iii) No cloth is room → Universal Negative (E-type).

(iv) Some cloths are not rooms → Particular Negative (O-type).

1. (3) All hills are roads.

All roads are stones.

A + A ⇒ A-type of Conclusion "All hills are stones."

Conclusion III is Converse of this Conclusion.

All hills are stones.

All stones are jungles.

A + A ⇒ A-type of Conclusion "All hills are jungles."

Conclusion II is Converse of this Conclusion.

All stones are jungles.

All jungles are rivers.

A + A ⇒ A-type of Conclusion. "All stones are rivers."

Conclusion I is Converse of this Conclusion

2. (2) All the four Premises are Particular Affirmative (I-type). No Conclusion follows from the two Particular Premises. Conclusion III is the Converse of the third Premise.

3. (5) Some petals are flowers.

All flowers are desks.

I + A ⇒ I-type of Conclusion "Some petals are desks."

Conclusion II is the Converse of this Conclusion.

Some desks are cards.

All cards are trains.

I + A ⇒ I-type of Conclusion "Some desks are trains".

This is Conclusion IV.

Conclusion I is the Converse of the second Premise.

PROBLEM SOLVING

In this kind of questions the Problem situation is presented as a group of more or less unrelated data or information and a specific question or group of questions is posed, the answers to which will constitute the solution to the problem. There is a good deal of plausibility in some of these puzzle type questions. From such information or data a person having the instinct of inquiry can produce an intelligible inferences and thus, can unleash a series of information. Examining and re examining the Problem situation from every point of view, marshalling all the relevant information that is available and seeking as persistently as we can, for some new insight into the problem by co-relating unorganised data, we can produce a systematic and useful information. On the basis of information given and inferences derived conclusively from them, we can answer the questions correctly. Now consider the following Problem situations :

Directions (1–3) : Study the following information carefully and answer the given questions :

Eight persons – A, B, C, D, E, F, G and H – are travelling in three different Cars namely X, Y and Z, but not necessarily in the same order. There are at least two persons in each Car and each Car has persons of both the sexes. Out of eight persons three are females. All of them like different colours viz, Red, Green, Yellow, Blue, Black, White, Grey and Purple but not necessarily in the same order. One female does not like Grey or White colour. D is travelling with G in the Car Z. G likes Black colour. The persons who like Red and Purple colours, are travelling in the same Car. E does not like Purple colour and he is not travelling with H in the same car. A does not like purple nor Red colour. H is travelling in the Car Y. B, C and H are females in the group. B likes Blue colour and travels with the person who likes Black colour. Red and Green colours are liked by female members. The person who is travelling with H, likes Grey colour. One of the persons travelling in Car Z likes Yellow colour.

1. In which of the following Cars only two persons are travelling?
(1) Car X (2) Car Y
(3) Car Z
(4) Cannot be determined
(5) None of these

2. The female member who is travelling in the Car X likes which colour ?
(1) Green (2) Blue
(3) Yellow (4) Red
(5) None of these

3. Who among the following likes Yellow colour ?
(1) D (2) E
(3) A (4) F
(5) None of these

[SBI Management Executive Exam, 22.02.2014]

EXPLANATIONS

(1–3) :

Person	Gender	Car	Colour
A	Male	Y	Grey
B	Female	Z	Blue
C	Female	X	Red
D	Male	Z	Yellow
E	Male	X	White
F	Male	X	Purple
G	Male	Z	Black
H	Female	Y	Green

1. (2) A and H are travelling in the Car Y.

2. (4) C is the female member in the Car X. She likes Red colour.

3. (1) D likes Yellow colour.

STATEMENT & ARGUMENTS

In this type of questions, a statement (usually an interrogative sentence) in the form of a suggested course of action is followed by two arguments. One argument generally supports the given statement (or suggested course of action) by pointing out some positive features or positive results of that action while the second argument denies the statement or argues against it by pointing out the negative features or deleterious effect/result of that action. In order to determine the forcefulness of the arguments we have to decide whether the argument is perfect or not. If an argument is hundred per cent perfect, it would be forceful.

Remember that :

(i) The argument should not be just an optnion. It must answer one of the questions — Why, How, When, What - of the statement. Otherwise it is not an argument.

(ii) An argument also depends on the language used because by changing a few words we can make a weak argument forceful.

(iii) The argument must be judged as an argument and not with what somebody or newspapers say (s).

1. Statement : Should we follow non alignment as foreign policy ?

Argument : Yes, because Pt. Jawaharlal Nehru advocated it.

Explanation : The argument is not forceful. If somebody says in favour of any policy or adopts it, that does not mean that it is a correct policy.

(iv) If some one is quoted in support of the statement it cannot be a forceful argument.

2. Statement : Is child the father of man ?

Argument : Yes, because Words-worth has said, 'Heaven lies about us in our infancy.'

Explanation : The argument cannot be forceful only because someone has quoted in support of the statement.

3. Statement : Should admission to all professional courses be made on the basis of past academic performances rather than through entrance tests ?

Arguments :

I. Yes. It will be beneficial for those candidates who are unable to bear the expenses of entrance tests.

II. Yes. Many deserving candidates securing high marks in their qualifying academic examinations do not perform well on such entrance tests.

III. No. The standard of examinations and assessment conducted by different boards and universities are not comparable and hence there is a need to conduct entrance tests to calibrate them on a common yardstick.

Decide which of the arguments is/are 'strong' argument(s) and which is/are 'weak' argument(s).

(1) Only I and II are strong

(2) Only II and III are strong

(3) Only I and III are strong

(4) Only III is strong

(5) All I, II and III are strong

[SBI Management Executive Exam, 22.02.2014]

EXPLANATIONS

3. (4) The scheme to select deserving candidates cannot be abolished just because of the expenditure it entails. Therefore, argument I is not strong. Also, students who are intelligent enough to secure good marks in academic examinations have no reason not to perform well in entrance tests. Therefore, argument II also does not hold. Argument III seems to be strong.

STATEMENT & ASSUMPTIONS

An **assumption** is something that can be supposed by the implied meanings of the given statement. **Imply** means 'to suggest or express indirectly.' Often people do not speak what is in their mind or what they think in totality, but we can infer or assume what must have in their mind from the statements made by them. For example when you say, *'An honest Police Inspector has come to the city, and so crime will be checked'*, then the assumption you make is that *if Police Inspector is honest, he could put a check on the crime.* Thus, when we say something we do not express everything, every aspect of our ideas into words. We tend to leave many things or ideas unsaid, which may be defined as an **assumption**. It is that part of an argument on the basis of which we say something. Now, we can say that an **assumption** is that part of an argument which is not expressed or said explicitly as it is assumed or understood intrinsically. Consider the following illustration :

1. Statement : Robert is a good player of Indian hockey team. So, India should win the match.

When we analyse these statements, we can express the same idea more elaborately as :

(i) Robert is a good player of Indian hockey team

(ii) A good player is likely to help his team win the match.

(iii) So, India may win the match.

The statement (ii) is left unsaid deliberately while arguing because it is taken for granted. Hence, it is assumption. Thus, an assumption is the hidden part of an argument.

In short, we can say that an **assumption** is something which is assumed, supposed or taken for granted.

Assumption is one type of implication. If we ask a person, "*Did you go from Delhi to Patna by air?*", we assume that Delhi and Patna are connected by air (route) — it is the implied meaning of the state-

ment. Therefore, an implication may be an assumption, i.e. on the basis of which we say something. Consider another example :

Ex. Statement : Our country has stood like a solid rock in the face of common danger.

From the statement it is implied that there have been dangers to our country— this is also an assumption.

Here it should be noted that implications can also be **long drawn conclusions** and such conclusions are not valid assumptions. Note that there is basic difference between the assumption and implication. An **assumption** is something **on which the statement is based.** On the other hand, an **implication** is something which is derived from and, therefore, **based upon the statement.**

1. **Statement** : Democracy in the sense of majority rule is not what people are seeking. The middle classes in the Ukraine, Bosnia, Thailand and Venezuela are demanding greater accountability, and are challenging regimes seen as corrupt, out of touch and which form obstacles to a better future.
   Which of the following **assumptions** is implicit in the above statement ?
   (An assumption is something supposed or taken for granted).
   (1) The middle classes want a government that is accountable, responsible and effective in moving their country further into the modern world.
   (2) The importance of middle classes has been enhanced in the governance of a democratic country.
   (3) The middle classes are capable of overthrowing a corrupt government.
   (4) Democracy, in true sense, does not mean the rule of majority which takes into consideration only the numbers.
   (5) Except a small number of countries in the world, other countries do not favour democratic form of government.
   [SBI Management Executive Exam, 22.02.2014]
2. Read the following information carefully and answer the given question:
   'Pets are not allowed in the park premises' - A notice put up at the park entrance by the authority that is responsible for maintenance of the park.
   Which of the following can be **an assumption** according to the given information ? *(An assumption is something that is supposed or taken for granted)*
   (1) At least some people who visit the park have pets.
   (2) This is the only park which does not allow pets
   (3) People who ignored this notice were fined
   (4) There are more than one entrances to the park
   (5) Many people have now stopped visiting the park
   [SBI PO Exam, 28.04.2013]

EXPLANATIONS

1. (1) The middle classes are now not merely passive consumers or docile voters, they are demanding that governments not accustomed to accountability and showing deference to popular demands, start acting like true democracies. So, Option (1) may be an assumption.
2. (1) Obviously option (1) is an assumption.

STATEMENT & CONCLUSIONS

In this type of questions, some statements are given followed by some inferential conclusions which can be derived from the given statements. You are required to consider the conclusions and then decide which of them logically follows beyond a reasonable doubt from the information given in the statement. Such questions are asked to test your ability to derive correct inferences from the given pieces of information. The most important aspect of such questions is the nature of conclusion. Some of the conclusions can be easily and quickly detected because these follow directly from the facts stated in the statement. The pieces of information given in the statement clearly supports the conclusion. But sometimes conclusions may be indirect. In such cases it becomes very difficult to decide the validity of conclusion.

A conclusion will follow, if

(i) it is implied in one or all of the pieces of information.

(ii) it is a generalisation of the ideas given in the statement.

(iii) no material fallacy is committed, viz., (a) fallacy of composition, (b) fallacy of division, (c) fallacy of uncritical analogy, (d) fallacy of accident and (e) fallacy of insufficient data.

Directions (1-3) : In each question below is given a statement followed by two conclusions numbered I and II. You have to assume everything in the statement to be true, then consider the two conclusions together and decide which of them logically follows beyond a reasonable doubt from the information given in the statement.

Give answer (1) if only **Conclusion I** follows.

Give answer (2) if only **Conclusion II** follows.

Give answer (3) if **either I or II** follows.

Give answer (4) if **neither I nor II** follows.

Give answer (5) if **both I and II** follow.

1. **Statement :** The oceans are a storehouse of practically every mineral, including uranium. But like most other minerals, it is found in extremely low concentration — about three grams per 1000 tonnes of water.
   Conclusions :
   I. The oceans are a cheap source of uranium.
   II. The oceans harbour radiation hazards.
2. **Statement :** The Minister questioned the utility of the space research programme and suggested its replacement by other areas of felt national needs.

Conclusions :

I. Exploring the space does not contribute to critical national needs.

II. Research should be oriented to national needs.

3. Statement : The laws and statutes framed by the Government for the purpose of providing equal treatment to every citizens, on implementation perpetuate corrupt working system.

Conclusions :

I. The laws and statutes should be framed but they should not be implemented to avoid corrupt working system.

II. There should be obvious method to investigate corrupt working system.

4. Statement : Although the education system has progressed from the point of view of the number of schools, most of them are ill-equipped and have not achieved excellence in imparting education.

Which of the following **inferences** can be drawn from the above statement ?

(An inference is something which is not directly stated but can be inferred from the given facts).

(1) We need not open any more schools in future.

(2) In future, we should provide good teachers and equipment to these schools.

(3) It is necessary to open more schools to accommodate the increasing number of students.

(4) It is very difficult to manage a large number of schools properly.

(5) Any system develops gradually and we should hope for better outcomes.

[SBI Management Executive Exam, 22.02.2014]

EXPLANATIONS

1.(4) Neither of the conclusions follows. It is stated that uranium is found in very small quantity, i.e. about 3 grams per 1000 tonnes of water. Therefore, ocean cannot be a cheap source of uranium.

2.(5) Both the conclusions follow beyond a reasonable doubt.

3.(2) If laws and statutes framed are not implemented then what is the need of framing laws and statutes. But conclusion II definitely follows.

4. (2) Clearly, the statement stresses the need to provide good teachers and equipment to schools. Therefore, Option (2) can be inferred from the statement. If a system does not give desired result, we should point out the cause and every effort should be made to address the problem. Therefore, Option (1) does not follow.

COURSES OF ACTION

This type of questions was asked for the first time in Bank P. O. Examination in the year 1991. Since then such questions appear in almost all the Bank P. O. Examinations. These questions are asked to test the candidate's administrative skill and ability to analyse a problem correctly in unusual circumstances. In this type of questions, a situation or problem is given accompanied by some **Courses of Action** as a follow up of the situation or problem. You are required to point out which course of action would you like to adopt to deal with that situation or problem. Now a question arises :

What is a **Course of Action ?**

A Course of Action is a step or administrative decision to be taken for improvement, follow up or further action in regard to the problem, policy etc. on the basis of the information given in the statement (i.e. a problem or situation).

Such questions are asked to test the candidate's ability to judge a problem correctly under given circumstances; to determine or ascertain the root cause of the problem and finally, to prescribe a suitable course of action, which could solve the problem aptly. As a responsible officer, you may face many administrative challenges and you will be required to decide appropriate course of action or take an appropriate decision.

Nature of the Question : Generally, two patterns are adopted in questions on deciding courses of action :

I. A problem followed by suggested courses of action which will prescribe solution to the problem, and

II. A fact or situation followed by suggested courses of action which could improve the situation.

Therefore, first of all you should decide whether the given statement talks of a problem or describes simply a fact/situation.

Problem-Solution Type : In the case of a Problem Solution question, the suggested course of action will be appropriate if :

(i) it does solve or reduce or minimise the problem and

(ii) it is a practical solution.

In other words, we have to examine the suggested course of action in the light of above mentioned framework.

It is not very difficult to judge whether a suggested course of action would solve or minimise a problem. You can decide it up by applying your commonsense and awareness and by your everyday experiences. Similarly, if a solution is applicable in every day life, it is regarded as practical follow up.

Fact/Situation-Improvement Type : In this type of questions, the suggested course of action is taken up for the improvement in the given situation. Therefore, in the case of Fact Improvement type questions, the suggested course of action will be appropriate if :

(i) it improves the situation and

(ii) it is a practical approach.

Now consider the following examples :

Directions (1 – 3) : In each question below is given a statement followed by two courses of action numbered I and II. A course of action is a step or administrative decision to be taken for improvement, follow-up or further action in regard to the problem, policy, etc. On the basis of the information given in the statement, you have to assume everything in the statement to be true, then decide which of the suggested courses of action logically follow(s) for pursuing.

Give answer (1) if only course of action I follows.

Give answer (2) if only course of action II follows.

Give answer (3) if either course of action I or II follows.

Give answer (4) if neither course of action I nor II follows.

Give answer (5) if both courses of action I and II follow.

1. Statement : Drinking water supply to many parts of town is disrupted due to loss of water because of leakage in pipes supplying water.

Courses of action :

I. The government should order an enquiry into the matter.

II. The civic body should set up a fact-finding team to assess the damage and take effective step.

2. Statement: There is an alarming increase in the number of people suffering from malaria in many parts of the city.

Courses of action :

I. The municipal corporation has advised all the government hospitals to store adequate supply of malaria drugs.

II. The municipal corporation has urged people to use mosquito repellants and keep their premises clean.

3. Statement : Many people have encroached into the government property and built their houses and business establishments.

Courses of action :

I. The government should take immediate steps to remove all unauthorised constructions on government land.

II. All the encroachers should immediately be put behind bars and also be slapped with a hefty fine.

[SBI Management Executive Exam, 22.02.2014]

EXPLANATIONS

1. (4) Considering the nature of problem, Courses of Action I is not necessary. Again, it is mentioned in the statement that water supply is disrupted due to loss of water owing to leakage in pipes supplying water. Thus, reason for disruption of water supply is known. Then, what is the need of setting-up of fact-finding mission.

2. (5) Both the Courses of Action are suitable for pursuing. In case of outbreak of malaria adequate supply of drugs in necessary. Again the people should use mosquito repellants and keep their premises clean to check breeding of mosquitoes.

3. (1) Only Course of Action I seems to be suitable for pursuing. Course of Action II is too harsh to be suitable.

CRITICAL REASONING

The questions on Critical Reasoning are meant to measure candidates' ability to read and comprehend a piece of written material, to reason and to evaluate arguments. Critical Reasoning questions are designed to test the reasoning skills involved in (a) making arguments (b) evaluating arguments and (c) formulating or evaluating a plan of action. In these questions, you are to analyse the situation on which each question in based, and then select the answer choice that most appropriately answers the question. Begin by read the passages carefully, then read the five answer choices. If the correct answer is not immediately obvious to you, see whether you can eliminate some of the wrong answers. Reading the passage a second time may be helpful in illuminating subtleties that were not immediately evident.

Answering critical reasoning questions requires no specialised knowledge of any particular field; you are not required to have knowledge of the terminology and conventions of formal logic.

Critical reasoning questions are designed of provide one measure of your ability to reason effectively in the following areas :

- **Argument Construction :** Questions in this category may ask you to recognise such things as the basic structure of an argument, properly drawn conclusions, underlying assumptions, well-supported explanatory hypotheses and parallels between structurally similar arguments.
- **Argument Evaluation :** These questions may ask you to analyse a given argument and to recognise such things as factors that would strengthen or weaken the given argument; reasoning errors committed in making that argument; and aspects of the method by which the argument proceeds.
- **Formulating and Evaluating a Plan of Action :** This type of question may ask you to recognise such things as the relative appropriateness, effectiveness or efficiency of different plans of action; factors that would strengthen or weaken the prospects of success of a proposed plan of action; and assumptions underlying a proposed plan of action.

Strategies for Tackling Questions

- Read very carefully the set of statements on which a question is based. Pay greater attention to :
  - What is put forward as factual information
  - What is not said but necessarily follows from what is said
  - What is claimed to follow from facts that have been put forward

- How well substantiated are any claims that a particular conclusion follows from the facts that have been put forward

In reading the arguments, it is important to pay attention to the logical reasoning used; the actual truth of statements portrayed as fact is not important.

■ **Identify the Conclusion :** The conclusion does not necessarily come at the end of the text; it may come somewhere in the middle or even at the beginning. Be careful to clues in the text that an argument follows logically from another statement or statements in the text.

■ **Determine Exactly what each Question Asks :** You might find it helpful to read the question first, before reading the material on which it is based; don't assume that you know what you will be asked about an argument. An argument may have obvious flaws, and one question may ask you to detect them. But another question may direct you to select the one answer choice that does not describe a flaw in the argument.

Now consider the following questions :

Directions (1–3) : Read the following information carefully and answer the given questions :

Despite repeated announcements that mobile phones were not allowed in the examination hall, three students were caught with their mobile phones.

(A) Mobile phones nowadays have a lot of features and it is easy to cheat with their help

(B) The invigilator must immediately confiscate the mobile phones and ask the students to leave the exam hall immediately.

(C) Mobile phones are very expensive and leaving them in bags outside the exam hall is not safe.

(D) There have been incidents where students who left the exam hall early stole the mobile phones kept in the bags of the students who were writing the exam

(E) The school authorities must ask the students to leave their phones in the custody of the invigilator before the exam in order to avoid thefts of mobile phones

(F) None of the other students were carrying their phones in the exam hall.

1. Which of the following among (A), (B), (C) and (D) may be a **strong argument** in favour of the three students who were caught with the mobile phone ?
(1) Only (A)
(2) Both (A) and (B)
(3) Both (C) and (D)
(4) Only (C)
(5) Both (B) and (D)

2. Which of the following among (A), (B), (E) and (F) may be the reason behind the school making such announcements before the exam ?
(1) Only (B)
(2) Both (B) and (E)
(3) Only (F) (4) Only (A)
(5) Both (E) and (F)

3. Which of the following among (A), (B), (D) and (F) can be an immediate **course of action** for the invigilator ?
(1) Only (B)
(2) Both (A) and (D)
(3) Only (A)
(4) Both (D) and (F)
(5) Only (F)

[1 to 3 : SBI PO Exam, 28.04.2013]

4. Statement : Satisfaction with co-workers, promotion opportunities, the nature of work, and pay goes with high performance among those with strong growth needs. Among those with weak growth needs, no such relationship is present – and, in fact, satisfaction with promotion opportunities goes with low performance.
The statement best support the premise that
(1) satisfaction is an inevitable organisational variable
(2) job satisfaction and performance are directly and closely related
(3) relationship between job satisfaction and performance is moderated by growth need
(4) every organisation has few employees having weak growth need
(5) high performance is essential for organisational effectiveness.

[SBI Management Executive Exam, 22.02.2014]

EXPLANATIONS

1. (1) Mobiles phones nowadays have a lot of fatures and it is easy to cheat with their help. So, the three students brought mobile phones to the examination hall.

2. (4) The school made announcements that mobile phones were not allowed in the examination hall because it is easier to cheat with the help of mobile phones.

3. (1) Obviously Statement (B) may be an immediate course of action for the invigilator.

4. (3) Obviously the facts mentioned in the statements support the Option (3).

DATA SUFFICIENCY

A typical **Data Sufficiency** question contains a problem followed by two statements numbered I and II (sometimes three) containing certain data or information which may be required for solving the given problem. You are required to determine whether the problem can be solved with the help of the data provided in the first statement and/or the second statement. Thus, questions on Data Sufficiency are meant to judge the candidates' ability to determine the information necessary to solve a given question (rather than actual solution of the same). Therefore, it is the test of skill.

The candidates must be able to determine the 'minimum' information required for solving the question so that you may arrive at the most appropriate answer choice. Apart from the information given in the question and the statements, nothing should be taken for granted. You are not to assume anything beyond the information given in the question and the following statements.

Questions on Data Sufficiency may be asked from any topics of the General Intelligence or Critical Reasoning such as Ranking/Arrangement, Coding-Decoding, Blood Relationship, Age Problems, Distance and Direction Test, Mathematical Problems and so on. However, these questions are asked in a different format and as such, somewhat different approach is required to solve the questions on Data Sufficiency.

Now consider the following examples :

Directions (1-2) : Each of the questions below consists of a question and three statements numbered I, II and III given below it. You have to decide whether the data provided in the statements are sufficient to answer the question.

1. Who amongst P, Q, R, S, T and V, each securing different marks, secured the second lowest marks ?

I. R and T secured more marks than P and Q

II. V secured the highest marks

III. S secured more marks than P but less than Q.

(1) Only I and III

(2) All I, II and III are required to answer the question

(3) Only II and III

(4) Question cannot be answered even with all I, II and III

(5) Only I and II

2. Which village is to the North-East of village R ?

I. Village S is to the South-East of village N which is to the South-West of village P and village P is to the North of village Q.

II. Village T is to the North-West of village Q which is to the south of village P.

III. Village R which is to the North of village S, lies between villages N and Q and village N is to the West of village R.

(1) Only I and II

(2) Only II and III

(3) All I, II and III are not sufficient to answer the question

(4) All I, II and III are required to answer the question

(5) Only I and III or only II and III are required to answer the question

[SBI Management Executive Exam , 22.02.2014]

EXPLANATIONS

1. (2) From statement I

R, T > P, Q

From statement II

V > R, T, P, Q, S

From statement III

Q > S > P

From statements I and II

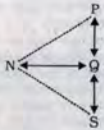
V > R, T > P, Q

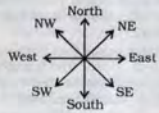
From all the three statements

V > R, T > Q > S > P

Clearly, S secured the second lowest marks.

2. (5) From statement I



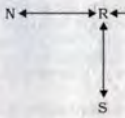


There is no information about the village R in the statement I.

From statement II

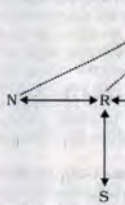
There is no information about the village R in the statement II.

From statement III



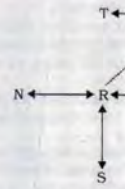
There is no information about the village R in the statements I and II. Therefore, we cannot arrive at the answer even with the statements I and II taken together.

From statements I and III



It is clear from the diagram that village P is to the North-East of village R.

From statements II and III



It is clear from the diagram that village P is to the North-East of village R.

DATA ANALYSIS OR DECISION MAKING

In this type of questions, some basic conditions and other additional conditions (rather say alternative conditions) are provided besides information about a candidate. You are required to recommend suitable decision on the basis of information provided against each candidate and the given conditions. You are not supposed to assume anything. If the data provided are not sufficient to take a decision, mark your answer 'Data are inadequate'.

If the information regarding any basic condition (and additional condition, if any) about a candidate is not given the situation is referred to as 'Data inadequate'.

If information given regarding a condition does not satisfy the same, such situation should not be considered as 'Data inadequate'.

Majority of the candidates tend to ignore such questions in the examination considering them to be lengthy and time consuming. Here, we like to convince you that if systematic approach is followed such questions may be solved quickly.

Now consider the following questions.

Directions (1–3) : Study the following information carefully and answer the given questions :

Following are the conditions for selecting candidates for Post Graduation Diploma in Marketing in an institution.

The candidate must

(i) have a Graduation Degree with at least 50 percent marks

(ii) be at least 22 years as on 01.12.2013

(iii) have secured at least 40 per cent marks in the Entrance Test

(iv) have secured at least 50 per cent marks in the Group Discussion and Interview

(v) be capable to pay a fee of Rs. 4 lakh per annum at the time of admission.

In the case of a candidate who fulfills all the conditions EXCEPT

(a) at (iii) above but has secured 30 per cent marks in the Entrance Test and 80 per cent marks in the Graduation, his/her case is to be referred to the Dean of the Institution

(b) at (v) above but can deposit an amount of Rs. 2.5 lakh in the beginning of the first year, his/her case is to be referred to the Director of the Institution.

In each question below, details of one candidate are provided. You have to take one of the following courses of actions based on the conditions given above and the information provided in each question and mark the number of that course of action as your answer. You are not to assume anything than the information provided in each question. All these cases are given to you as on 01.12.2013.

Marks answer (1) if the case is to be referred to the Dean of the Institution.

Marks answer (2) if the case is to be referred to the Director of the Institution.

Marks answer (3) if the candidate is to be selected

Marks answer (4) if the candidate is not to be selected

Marks answer (5) if the data provided are inadequate to take a decision.

Now read the information provided in each question and mark your answer accordingly.

1. Anup Bhatnagar was born on 12th June, 1989. He can deposit an amount of Rs. 4 lakh at the time of admission. He secured 85 per cent marks in the Graduation and 55 per cent marks in the Group Discussion and Interview. He secured 35 per cent marks in the Entrance Test.
2. Nisha Desai was born on 8th April, 1991. She secured 80 per cent marks in the Graduation and 60 per cent marks in Group Discussion and Interview. She can pay an amount of Rs. 4 lakh per annum.
3. Subodh Verma was born on 22nd May, 1990. He secured 50 per cent marks in the Graduation and 40 per cent marks in the Entrance Test. He secured 60 per cent marks in Group Discussion and Interview and can deposit an amount of Rs. 4 lakh as fee.

[1 to 3 : SBI Management Executive Exam, 22.02.2014]

EXPLANATIONS

(1–3) :

Candidate	Conditions						
	(i)	(ii)	(iii) or (a)	(iv)	(v) or (b)		
Anup	✓	✓	–	✓	✓	✓	–
Nisha	✓	✓	×	–	✓	✓	–
Subodh	✓	✓	✓	–	✓	✓	–

1. (1) Anup Bhatnagar satisfies conditions (i), (ii), (a), (iv) and (v). Therefore, his case would be referred to the Dean of the Institution.
2. (5) In case of Nisha Desai there is no information about the condition (iii).
3. (3) Subodh Verma satisfies conditions (i), (ii), (iii), (iv) and (v). Therefore, he can be selected.

VENN DIAGRAM

The questions relating to logical venn daigrams test the canddiates' ability to relate and comprehend a certain groups of items and illustrate it diagramatically. You are required to determine whether the items will form sets and their subsets if related or are unrelated and will form different sets. The items may be related through **intersection or union** of sets. Although the language and symbol of SET THEORY are never used in this type of questions, if you have studied SET THEORY you may find questions on venn diagram relatively easier.

Suppose you are given three items : A, B and C. Here, it should be noted that each item represents a certain class. Thus, the questions on venn diagrams are based on the concept of **class**. A **class** is a homoge-

neous group of objects, or entities, i.e. all entities contained in a certain class have something common among themselves. For example, the class of 'human being' includes only humans and not other living beings. When we say 'animal' or 'animal kingdom', then we are referring to all types of animals including, of course, human beings. Similarly, if we say 'living beings', then we do mean both flora and fauna.

If we are given three items, namely A, B and C, we have to examine only six types of relationship which possibly exist among themselves :

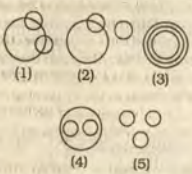
Six Types of Relationships

(i) Relation of A with B.
(ii) Relation of B with C.
(iii) Relation of A with C.
(iv) Relation of B with A.
(v) Relation of C with B.
(vi) Relation of C with A.

After establishing the relationship write a statement showing that relation and draw the suitable venn diagram.

Now consider the following examples :

Directions (1-2) : In each of the following questions there are three items. These three items may or may not be related with one another. Each group of items may fit into one of the diagrams (1), (2), (3), (4) and (5). You have to decide in which of the following diagrams the groups of items may fit. The number of that diagram is the answer.



Ex.1. Nose, Hand, Body

Ex.2. Mustard, Barley, Potato

Directions (3–5) : Study the following information carefully and answer the given questions :

In a group of students, 21 students like football, 26 students like cricket, 29 students like volleyball, 15 students like cricket and volleyball, 14 students like cricket and football, 12 students like volleyball and football and 8 students like all the three games.

3. How many students are there in the group ?
(1) 45
(2) 48
(3) 43
(4) 44
(5) None of these

4. How many students do like volleyball only ?
(1) 10 (2) 8
(3) 12 (4) 9
(5) None of these

5. How many students do like cricket only ?
(1) 7 (2) 6
(3) 4 (4) 5
(5) None of these

[3 to 5 : SBI Management Executive Exam, 22.02.2014]

EXPLANATIONS

1.(4) Nose is different from the hand. But both are parts of body.

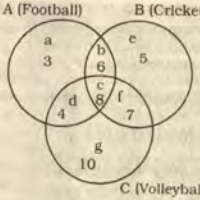
2.(5) All the three are different kinds of crops. Therefore, these three items can be depicted by three disjoint circles.

(3–5) :

Let A, B and C be the sets of students who like football, cricket and volleyball respectively. Then

$n(A) = 21$
$n(B) = 26$
$n(C) = 29$
$n(A \cap B) = 14$
$n(A \cap C) = 12$
$n(B \cap C) = 15$
$n(A \cap B \cap C) = 8$
$\therefore n(A \cup B \cup C)]$
$= [n(A) + n(B) + n(C) + n(A \cap B \cap C)] - [n(A \cap B) + n(A \cap C) + n(B \cap C)]$
$= [21 + 26 + 29 + 8] - [14 + 12 + 15]$
$= 84 - 41 = 43$

Now, we can draw the complete venn diagram as follows:



3. (3) There are 43 students in the group.

4. (1) It is clear from the venn diagram that 10 students like volleyball only.

5. (4) It is clear from the venn diagram that 5 students like Cricket only.

□□□