Adda247 PUBLICATIONS

500+ CURRENT AFFAIRS & FINANCIAL AWARENESS MCQ'S

RBI
RESERVE BANK OF INDIA
GRADE-B OFFICERS
PHASE-I EXAM

3000+ Questions with 100% Solutions

Includes
- General Awareness
- Quantitative Aptitude
- English Language
- Reasoning Ability

▶ **Complete Coverage of Syllabus**

▶ **Based on Latest Pattern**

▶ **Solved Paper (2021-22)**

CONTENTS

Reasoning Ability

Quantitative Aptitude

CLICK HERE TO BUY BOOK

English Language

Current Affairs and Financial Awareness MCQ's

RBI Grade B Phase – I Memory Based Papers

···•ဪC૩ဪ૩C·····

CLICK HERE TO BUY BOOK

Reasoning
Ability

Chapter 01

Alpha-Numeric-Symbol Series

Introduction: Alpha - Numeric - Symbol series is a combination of alphabets, Numbers, and symbols. This chapter is one of the important chapters because in every competitive exam around five questions come from this chapter.

* Some important points you have to keep in your mind:
  (1) Vowels - A, E, I, O, U
  (2) Consonants - All letters except vowels
  (3) Numbers - 1, 2, 3, 4 etc ....
  (4) Symbols - ! @ # $ % etc ....
       In whole chapter we will use these four points by applying some different conditions.

* Some twisted terms, you must understand to solve the questions:
  (1) A precedes B means A will left to B (i.e AB)
  (2) B is preceded by A (It also means that A will left to B). (i.e AB)
  (3) B follows A means B will right to A (i.e AB)
  (4) A is followed by B
  It also means that B will right to A (i.e AB)

* Some common types of series are:
  - Alphabet series- this can be of two types
    o Where all the elements are alphabets.
       Ex- E N D H A G S I H D L F
    o Where elements are in the form of words having 3 or 4 alphabets in each
       Ex- RHU   SNJ   OKF   INK   ABH
  - Number series- where all given elements are numerals.
    Ex- 3 5 7 8 9 0 1 9 3 8 4 7
  - Alpha-numeric series- where given elements are combination of alphabets and numbers.
    Ex- A N D 9 7 2 M K 6 3 7 B R 0
  - Alpha-symbol series- where given elements are combination of alphabets and symbols.
  - Ex- J * F A B $ # N J * I %
  - Numeric-symbol series- where given elements are combination of numbers and symbols.
    Ex- 8 7 # % 9 8 % 4 3 & @
  - Alpha-numeric-symbol series- combination of alphabets, numbers and symbols are given here and this is very common type of series found in exam.
    Ex- * S D % 6 J $ Q 5 ! O $ P 7 ^ M @ X C 3 5 B
  - 3-digit number series- Here, all elements are numbers having three digits in each.
    Ex- 571   095   387   204   184

* Some important examples you have to keep in mind:
       3-digit number series example is given-
       634   563   086   456   678
  (a) Here, number is – 634 (complete term)
       Digit is – 6, 3, 4 (single numeral)
  (b) When numbers are arranged in ascending/descending order, then only numbers are arranged and digits remain same on their position.
       Ascending-   086   456   563   634   678
       Descending-   678   634   563   456   086
  (c) When digits are operated in ascending/descending/reversed order, then only digits are arranged and numbers remain same on their position.
       Ascending-   346   356   068   456   678
       Descending-   643   653   860   654   876
       Reversed-   436   365   680   654   876
  (d) When digits interchange their position, then numbers remain same on their position.
       Ex- 2nd and 3rd digit interchange their position, so new arrangement is
       643   536   068   465   687

* Important tips:

    Left + Left = (–) from Left

    Right + Right = (–) from Right

    Left + Right = (+) from Right

    Right + Left = (+) from Left

Example:

    Read the following character sequence carefully and then answer the questions given below it:

    B C Z 4 X 6 Δ G $ M P • 5 % R

(1) Which character is 3rd to the right of 4th from the right?

    Explanation: 3rd to the right of 4th from the right means (4 – 3) from right = 1st from right = R

(2) Which character is 2nd to the left of 7th from left?

    Explanation: 2nd to the left of 7th from left means (7 – 2) from left = 5th from left = X

(3) Which character is 2nd to the left of 7th from right?

    Explanation: 2nd to the left of 7th from right means (7 + 2) from right = 9th from right = Δ

(4) Which character is 2nd to the right of 7th from left?

    Explanation: 2nd to the right of 7th from left means (7 + 2) from left = 9th from left = $

Points to Remember:

(1) Give proper attention to twisted terms like "Preceded" and "Followed/succeeded".

(2) Follow the important tips which are mentioned in concept part to solve questions in less time.

(3) Count characters from left or right in series properly because a silly mistake will make your answer wrong.

Practice Exercise Based on new Pattern

Directions (1-10): What should be come in place of question mark (?)

1. ABABCABCDABCD?

  (a) A   (b) B   (c) C

  (d) D   (e) E

2. ZZYZYXZYXWZY?

  (a) Z   (b) Y   (c) X

  (d) W   (e) None of these

3. ANZBOYCPXD?W

  (a) Q   (b) R   (c) S

  (d) T   (e) U

4. ABDGKP?

  (a) S   (b) T   (c) Q

  (d) V   (e) None of these

5. AY, BX, CW, DV, ?

  (a) GH   (b) EF   (c) EU

  (d) EV   (e) None of these

6. A2Y, B4W, C6U ?

  (a) C8S   (b) D8S   (c) E8T

  (d) D75   (e) None of these

7. AB, CF, EJ, ?, IR

  (a) FM   (b) FL   (c) FJ

  (d) GN   (e) None of these

8. BY, DW, ? , HS, JQ

  (a) FT   (b) FU   (c) GU

  (d) EU   (e) None of these

9. ZZYZYXZYXWZYXWVZYXWVUZYXWVU?

  (a) T   (b) U   (c) W

  (d) S   (e) None of these

10. ZYXWVUTZYXWVUZYXWVZYXW?

  (a) V   (b) Y   (c) Z

  (d) U   (e) None of these

Direction (11-15): Study the following alphanumeric series carefully and answer the questions given below:

S 5 D G H & M * 7 8 # B 9 K L @ 6 % U & * 2

11. How many alphabets in the above series are immediately preceded and followed by symbols?

  (a) None   (b) Two   (c) One

  (d) Three   (e) None of these

12. Which element is 5th to the left of the element which is 7th from the right end?

  (a) #   (b) &   (c) 8

  (d) B   (e) 7

13. How many vowels are between the 6th element from the left end and 4th element from the right end?

  (a) None   (b) One   (c) Two

  (d) Three   (e) None of these

14. What would come at the question mark in the following sequence?

  5DG &M* #B9 ?

  (a) @6%   (b) 6%U   (c) L@6

  (d) %U&   (e) None of these

15. How many numbers are there in the above series which are immediately followed by symbols and immediately preceded by alphabets?

  (a) None   (b) One   (c) Two

  (d) Three   (e) None of these

Puzzle

👉 **BEST APPROACH TO SOLVE THE QUESTIONS**

Being a student you should know about the recent changes that have been seen in the recent exams.

So, we are providing you some questions based on the latest exams and also providing you the detail solution of it. So that you may get to know how to solve these questions. Here is the approach to solve such questions.

Example-1:

Directions: Study the following information carefully and answer the questions given below**.**

There are five doctors of different types viz., Ophthalmologist, Orthopedic surgeon, Psychiatrist, General physician and Dentist in a hospital but not necessarily in same order. They attend their patients at different timing in a single day. The duration of their meeting with the patient is different. The total duration of the meeting with the patients by all doctors is of 11 hour. There is no gap between the meeting time of all doctors. The duration of meeting either full hour or half an hour but not in one third or one fourth.

The one who is orthopedic surgeon attends their patients from 12:30 to 3pm.The dentist attends their patients immediate before or immediate after the Orthopedic surgeon. The meeting hour of Dentist with the patients is three hours. The duration of meeting with patients of General physician is more than duration of meeting of Psychiatrist with patients by 1 hour. General physician attends meeting just after the meeting of Psychiatrist. The general Physician does not attend patients at the last. The Ophthalmologist attends their patients before the Orthopedic surgeon but not immediate before. The duration of meeting of Ophthalmologist is of 1.5 hours. The timing of Psychiatrist meeting is after 6:00 am.

Solutions: The one who is orthopedic surgeon attends their patients from 12:30 to 3pm.The dentist attends their patients immediate before or immediate after the Orthopedic surgeon. The meeting hour of Dentist with the patients is three hours. So, from this we get that----

Case-1:

Doctors	Meeting hour
Orthopedic surgeon	12:30- 3:00 pm
Dentist	3:00- 6:00 pm

Case-2:

Doctors	Meeting hour
Dentist	9:30am-12:30pm
Orthopedic surgeon	12:30- 3:00 pm

The Ophthalmologist attends their patients before the Orthopedic surgeon but not immediate before. General physician attends meeting just after the meeting of Psychiatrist. The duration of meeting of Ophthalmologist is of 1.5 hours. The general Physician does not attend patients at the last. The duration of meeting with patients of General physician is more than duration of meeting of Psychiatrist with patients by 1 hour.

Case-1:

Doctors	Meeting hour
Ophthalmologist	7:00-8:30am
Psychiatrist	8:30-10:00am
General physician	10:00am-12:30pm
Orthopedic surgeon	12:30- 3:00 pm
Dentist	3:00- 6:00 pm

Case-2:

Doctors	Meeting hour
Psychiatrist	4:00-5:30am
General physician	5:30-8:00am
Ophthalmologist	8:00-9:30 am
Dentist	9:30am-12:30pm
Orthopedic surgeon	12:30- 3:00 pm

Case-3:

Doctors	Meeting hour
Ophthalmologist	4:00-5:30am
Psychiatrist	5:30-7:00am
General physician	7:00-9:30am
Dentist	9:30am-12:30pm
Orthopedic surgeon	12:30- 3:00 pm

The timing of Psychiatrist meeting is after 6:00 am. So, from this case-2 and 3 gets eliminated. So, the final arrangement is----

Doctors	Meeting hour
Ophthalmologist	7:00-8:30am
Psychiatrist	8:30-10:00am
General physician	10:00am-12:30pm
Orthopedic surgeon	12:30- 3:00 pm
Dentist	3:00- 6:00 pm

Example-2:

Directions: Study the following information carefully and answer the questions:

There are three compartments A, B, C such as compartment A is in west of compartment B and compartment A and compartment B is in west of compartment C. Twelve boxes P, Q, R, S, V, X, Y, Z, K, L,

Directions (1-5): Read the given information carefully to answer the following questions.

There are seven cars viz. A, B, C, D, E, F and G on two parallel roads X and Y. Four of the given seven cars parked while rest of the three are moving along the road. The parked cars are facing either north or south direction. The roads are narrow and are to be considered as a straight line. Distance between two cars on road X is a multiple of 5, while the distance between two cars on road Y is a multiple of 3. There are three cars to the right of A. Distance between B and F is 45 meters. Distance between E and the car in front of it is two-third of the distance between car E and the car behind it. Distance between G and A is half of the distance between G and D. Distance between car C and D is a multiple of 3 but less than 28m. C is 25 meters ahead of G. B is to the left of G. The moving car on road Y is moving towards B. Car F is to the North-East of car D. E is moving in a direction opposite to G and C. Car D is not anywhere behind car G. Only three cars are there on road Y. F is not behind car G. Distance between G and D is more than 20. No Car is moving towards F.

1. Which of the following car is facing/moving towards West direction?
   (a) A   (b) C   (c) F
   (d) Cannot be determined   (e) None of these

2. What is the shortest distance between car F and A?
   (a) More than 65 meters
   (b) 65 meters
   (c) 57 meters
   (d) 55 meters
   (e) 45 meters

3. Which of the following car is to the left of F?
   (a) E
   (b) B
   (c) Both B and E
   (d) Cannot be determined
   (e) None of these

4. What is the direction of car E with respect to A?
   (a) North East   (b) North West   (c) South West
   (d) South East   (e) None of these

5. What is the distance between car A and D?
   (a) 60 meters   (b) 75 meters   (c) 33 meters
   (d) 55 meters   (e) None of these

Directions (6-10): Study the following information carefully and answer the given questions.

Seven people A, B, C, D, E, F, G participated in a race which is of a certain duration, also each of them got different ranks. The track is a linear one and is of 100m. The one who got first rank run complete 100m but rest all run different distance but less than 100m in that time. C ran 10 m more than G. Both A and B run less distance than D. One of the person covers 85m distance. The one who got II rank is only 5m behind the border line. C covers less distance than F. The difference between the distance covered by C and D is 5m. None of the given person runs 90m and nobody covers less distance than 75m. The difference between the distance covered by C and G is same as the difference between the distance covered by F and A. F runs less distance than E. The difference between the sum of the distance covered by A and D and sum of the distance covered by E and F is 23. B covers 3m less distance than G.

6. Who among the following got III rank?
   (a) D
   (b) C
   (c) F
   (d) Cannot be determined
   (e) None of these

7. What is the sum of the distance covered by A and B?
   (a) 190 m   (b) 165 m   (c) 164 m
   (d) 155 m   (e) None of these

8. What is the difference between the distance covered by D and E?
   (a) 15 m   (b) 16 m   (c) 14 m
   (d) 13 m   (e) None of these

9. Who got fifth rank?
   (a) G   (b) A   (c) D
   (d) C   (e) F

10. How much distance covered by G?
    (a) 92m   (b) 79m   (c) 95m
    (d) 82m   (e) None of these

Directions (11-15): Study the following information carefully to answer the given questions.

Eight football players R, Q, P, O, N, M, S and T have different annual earnings viz. one million, three million and ten million. Out of these, two are females. They all live in a building having eighteen floors with top floor being numbered as 18th, second top floor is number 10th and bottom-most being numbered as 1st. Only one player lives on each floor. It is given that top floor and tenth floor is occupied by two of these players, one by each player. Each of the given eight players likes the following boxers viz. A, B, C, U and V. Two of them likes A, two likes U, two likes B and one likes C and one likes V. Q earns three millions and likes U, and her friend N likes A and earns ten millions. O, M and N lives on consecutive floors. The one who earns three millions and likes A lives on topmost floor. S lives below the one of the man who earns three millions. None of the players lives between T and S. M likes U, and earns the same amount of money as S earns, who likes B. No two players liking same boxers earns the same amount of money. O lives above M who live below N. O likes B and earns one million while his friend T who likes A earns three millions with only one another person. Not more than three of them earns ten millions. S, R and the one who likes U are living on consecutive floors respectively. The players who earns one million lives on

☞ **BEST APPROACH TO SOLVE THE QUESTIONS**

Recently many changes were seen in the machine Input questions asked in various mains exams i.e. SBI Po/ IBPS Po/RRB Clerk/SBI Clerk/Insurance etc. So, below there are some examples based on the new pattern Machine Input asked in SBI Po Mains and IBPS Po mains 2017 which have been explained with details solution to help you understand the approach of these type of questions.

Example 1:

A word and number arrangement machine when given an input line of words and numbers rearranges them following a particular rule in each step. The following is an illustration of input and rearrangement.

Input- njes glfu 53 18 31 44 wird dect
Step I: yktf 106 njes glfu 18 31 44 dect
Step II: plgu 88 yktf 106 glfu 18 31 dect
Step III: inhw 62 plgu 88 yktf 106 18 dect
Step IV: fgev 36 inhw 62 plgu 88 yktf 106

In this new pattern machine input question only one word and one number is arranged in each step.

Let us understand the logic behind it:
We can see that in each step the words and the numbers both are arranged from the left end.
For words- The word which has highest place value according to alphabetical series is arranged first from left end and each letter of each word is replaced by its second succeeding letter according to alphabetical series and same will be followed in each step.
For numbers- Numbers are arranged in descending order from left end in such a way that each number is multiplied by two.

Example 2:
Study the following diagram and convert it into other diagrams by implementing the instructions which is given in each step to get next step.

Interchange the Alphabets to get step 1 as arrows mention in the above figure.

UL4	O2	F3
MT9		AC7
EK8	RS5	I

Step-1

For Step-2:
(i) If the alphabets contain one consonant and one vowel and the number with them is greater than 3, then subtract 3 from the given number.
(ii) If the alphabets are two consonant and the number with them is greater than 5, then change the letters with the previous letter in alphabetical series.

UL1	O2	F3
LS9		AC4
EK5	RS5	I

Step-2

For Step-3: step 3 is coded in some special pattern.

EK5	R2	I
UL1		F3
LS9	W X5	AC4

Step-3

As, In the above question nothing has mentioned about the step 3. So, we must understand the logic behind this.

For Step 3:
The elements arranged in the first and third column in such way that the element in third row placed in first row and first row element is placed in second row and second row element is placed in third row. The alphabet of first row second column is replaced with the alphabet which is three places after the alphabet in alphabetical series. The alphabet of third row second column is replaced with the alphabet which is five places after the alphabet in alphabetical series.

Practice Exercise Based on new Pattern

Directions (1-5): Study the following diagram and convert it into other diagrams by implementing the instructions which is given in each step to get next step.

HA	LM	IV
GP		SO
UF	KN	CX

For Step-1:
Add the number of the last alphabet which is in the alphabetical series with the element.

HA1	LM13	IV 22
GP16		SO15
UF 6	KN14	CX24

Step-1

For Step-2:

(i) If the alphabets contain one consonant and one vowel

If the number with them is a whole square, then replace vowel with the opposite letter in alphabetical series and add 2 in the given number.

If the number with them is not a whole square, then replace vowel with the second previous letter in the alphabetical series.

(ii) If the alphabets are two consonants –

If the number with them is a whole square, then replace alphabets with the opposite letter in alphabetical series and subtract 2 in the given number.

If the number with them is not a whole square, then replace alphabets with the second next letter in the alphabetical series.

HZ3	NO13	GV22
TK14		SM15
SF6	MP14	EZ24

Step-2

For Step-3:
step 3 is coded in some special pattern.

GV22	HZ3	NO13
UL9		TN10
EZ24	SF6	MP14

Step-3

As per the rules followed in the above step, find out the appropriate steps for the given input.
And answer the following questions.

CD	FA	OJ
UN		HY
BK	PR	IZ

1. Which of the following element replaces the alphabets SN14 from step-2 to in step 3?
   (a) MJ10   (b)KD20 (c)TO9
   (d)XW2   (e)None of these

2. Which of the following element replaces HY25 from step-1 to in step 2?
   (a)FZ3   (b)SB23 (c)RT18
   (d)GZ26   (e)None of these

3. Which of the following element is placed in 2nd column 3rd row in step 3?
   (a) DM11   (b) XW2 (c) TC18
   (d) RT18   (e) None of these

4. Which of the following is diagonally opposite to the element FZ3 in step 3?
   (a) GZ26   (b)JA25   (c)TC18
   (d)MJ10   (e)None of these

5. Which of the following replaces CD4 from step-1 to in step 2?
   (a) XW2   (b) XN14(c) MJ10
   (d) GZ26   (e) None of these

Directions (6-10): Study the following information to answer the given questions:
A word and number arrangement machine when given an input line of words, rearranges them following a particular rule. The following is an illustration of input and rearrangement.
Input: code word right you thing like
Step I: youv code word right thing like 211
Step II: worde youv code right thing like 211 44
Step III: thingh worde youv code right like 211 44 77
Step IV: rightu thingh worde youv code like 211 44 77 200
Step V: likef rightu thingh worde youv code 211 44 77 200 55
Step VI: codef likef rightu thingh worde youv 211 44 77 200 55 55
Step VI is the last step of the rearrangement.

As per the rules followed in the above steps, find out in each of the following questions the appropriate steps for the given input.
Input: quite similar dull go test vice

6. How many steps would be needed to complete the arrangement?
   (a) X   (b) VIII   (c) IX
   (d) VI   (e) None of these

7. What will the difference of the numbers which is third from the right end in step III and 1st from the right end in step IV?
   (a) 12   (b) 0   (c) 18
   (d) 11   (e) None of these

👉 **BEST APPROACH TO SOLVE THE QUESTIONS**

Data Sufficiency, a topic that has emerged as mostly based on seating and puzzle arrangement recently. It requires attention while solving as each and every statement contains some direct and indirect information in it. So, you are required to solve every statement individually and also by combining it with other one.

Example-1:

Each of the questions below consists of a questions and two statements numbered I and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and find;

(a) if the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

(b) if the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

(c) if the data either in statement I alone or in statement II alone are sufficient to answer the question.

(d) if the data even in both statements I and II together are not sufficient to answer the question.

(e) if the data in both statements I and II together are necessary to answer the question.

1. Five friends Q, R, S, T, V are married on different dates 12, 19, 21, 28, 31 but not necessarily in the same order in the month of either January or September. T is married on which of the following date?

   (I) Both T and Q are not married on even date of the month. T is married before Q. Two persons are married in between T and V.

   (II) No body is married after R. S is married on a date in between T and Q. S is married on an even date. More than three persons are married in the same month.

2. Six boxes A, B, C, D, E, F of different colours are placed one above another. Also each box have different number of toffees. Only two boxes are placed in between B and Green box. No box is placed above B. Box D is placed immediately above Blue box. Only Red box is placed in between Green box and A. Only one box is placed between Red and Blue box. Only one box is placed in between D and E. Only one box is placed between Orange box and C. How many number of toffees does Blue box have?

   (I) Box E has more number of toffees than 8 while box C has more number of toffees than 20. Box D has 21 toffees. The box which has lowest and 2nd lowest number of toffees has 10 and 12 toffees respectively. Box A, C, D and F has odd number of toffees.

   (II) A has more number of toffees than B but not more than D. The difference in the number of toffees in box F and E is 7. The box which has highest number of toffees has 8 more toffees than box F. Total number of toffees in box B and A is 31.

Explanation (The Approach)

1. **(e)**; From statement II- S can be married on either 28 January or 12 September.

   From statement I and II- When S is married on 28 January

19/21 Jan	28 Jan	31 Jan	12 Sep	19/21 Sep
T	S	Q	V	R

   When S is married on 12 September

31 Jan	12 Sep	19 Sep	21 Sep	28 Sep
T	S	Q	V	R

   But it is given in statement II that More than three persons are married in the same month. So, we will get that S is married on 12 September and final arrangement from both statement I and II-

31 Jan	12 Sep	19 Sep	21 Sep	28 Sep
T	S	Q	V	R

2. **(e)**;

Boxes	Colours
B	Orange
D	-
C	Blue
E	Green
F	Red
A	-

   So, it is clear that, Box C is of Blue color.
   From Statement I-

   > > > >B/E > B/E
   12   10

   From Statement II-
   Total Number of toffees in box B+A= 31
   Difference in Number of toffees in box F-E=7

☞ **BEST APPROACH TO SOLVE THE QUESTIONS**

Coding decoding is the topic which shows continuous changes in it. In each and every exam this topic has gone through various changes. So, to get updated we are providing you some questions based on recent exams. By solving these you may get to know about the latest pattern and you will be able to prepare for the upcoming exams.
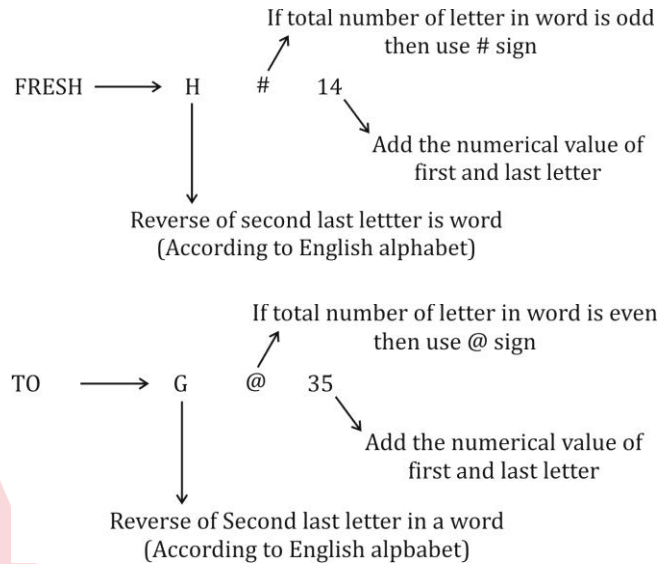
Example-1:

Directions (1-5): Study the information and answer the following questions:

In a certain code language

"fresh mind happy life " is coded as " H#14 M@17 K#33 U@17 "

"kashi city of temple" is coded as " S#20 G@28 L@21 O@25"

"Sarnath belongs to varanasi" is coded as"G#27 T#21 G@35 H@31"

"One airport in banaras " is coded as "M#20 I#21 R@23 Z#21 "

1. What is the code for 'Excellence' in the given code language?
   (a) X@10   (b) X#10
   (c) E@10   (d) E#10
   (e)None of these

2. What is the code for 'University' in the given code language?
   (a) G#46   (b) T@46
   (c) N@46   (d) G@46
   (e) None of these

3. What may be the possible code for 'One army ' in the given code language?
   (a) M#20 M@26   (b) M#20 T@26
   (c) N@26 M#20   (d) M#20 N@26
   (e) None of these

4. What may be the possible code for 'Veracity' in the given code language?
   (a) T@47   (b) G@47
   (c) E@47   (d) G#47
   (e) None of these

5. What is the code for 'Ghats in Kashi' in the given code language?
   (a) R@21 T#20 G#26 (b) G#26 R@23 S#20
   (c) G@26 S20 R@21   (d) G@26 S20 R21
   (e) None of these

Explanations (The Approach):

These are the latest pattern of coding-decoding questions. In these questions we are applying following concept:-

If total number of letter in word is odd then use # sign

FRESH ⟶ H   #   14

Add the numerical value of first and last letter

Reverse of second last lettter is word (According to English alphabet)

If total number of letter in word is even then use @ sign

TO ⟶ G   @   35

Add the numerical value of first and last letter

Reverse of Second last letter in a word (According to English alpbabet)

1. **(a);** X@10
2. **(d);** G@46
3. **(d);** M#20 N@26
4. **(b);** G@47
5. **(b);** G#26 R@23 S#20

Example-2:

Direction (1-5): Study the following information and answer the given questions.

In alphabetical series A-Z each letter except vowels is assigned a different number from 1-8 (for ex- B is coded as 1, C-2...........K-8)and again those numbers get repeated(for ex- L-1, M-2........so on).

Also each vowel is assigned a different symbol viz. #, $, %, @, &. For example-

In coded language-

"She is girl" is coded as - 76% #7 5#61

"What did you like" is coded as - 26$8 3#3 4@& 1#8%

"It is Opinion" is coded as - #8 #7 @4#3#@3

(i) If both first and last letter of a word is vowel then the codes of both the vowels are interchanged.

(ii) If first letter of a word is vowel and last letter is consonant then both are to be coded as *.

(If the word does not satisfy the conditions given above then the letters of that word are to be coded as per the directions given above)

1. What can be the code of 'Nothing perfect'?
   (a) 3@86#53 4%64%28   (b) 3@68#35 4%64%28
   (c) 3@86#35 4%64%38   (d) 3@86#35 4%64%28
   (e) None of these

👉 **BEST APPROACH TO SOLVE THE QUESTIONS**

Now a days as you can see there has been a constant change in the pattern of each and every topic. So, you have to be prepared for all those changes. That is reason why we are providing you questions based on recent exams, once you go through all these you may be able to understand the recent changes in the current examination.

Example-1:

In the following questions, the symbols #, &, @, * , $, % and © are used with the following meanings as illustrated below. Study the following information and answer the given questions:

P#Q - P is the son of Q.
P@Q - Q is the child of P.
P©Q - P is the parent of Q.
P$Q - P is elder than Q.
P*Q- P is the husband of Q.
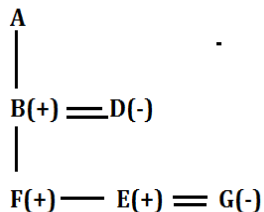P&Q- Q is the daughter-in-law of P.
P%Q- P is the wife of Q.

1. If A@B*D&G%E$F#D then how F is related A?
   (a) Grandfather   (b) Grandson   (c) Daughter
   (d) Wife   (e) None of these

2. If H*M©O$N#M, the age of N is 20 years and of H is 40 years then what is the probable age of O?
   (a)17 years   (b)15 years   (c)23 years
   (d) 45 years   (e)12 years

Direction (1-2):

1. **(b);**

   A
   |
   B(+) ═══ D(-)
   |
   F(+) ─── E(+) ═══ G(-)

2. **(c);**

   H(+) ═══ M(-)
   |
   O ─── N(+)
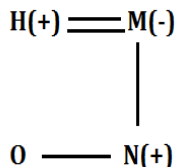
Example-2:

Study the information carefully and answer the questions given below.

P is the husband of Q. R is the grandchild of P.P has only one child(son) who is married to T's child. T has only two children one son and one daughter. X is grandson of T. S is brother in law of son of T. U and V are children of T. W is married to the son of T. X is son of U's brother.

1. If T is married to Y than how is T related to R?
   (a) Grandfather   (b) Grandmother   (c) Maternal Grandfather
   (d) Maternal Grandmother   (e) Either (c) or (d)

2. How is X related to V?
   (a) Son   (b) Daughter   (c) Son in law
   (d) Daughter in law   (e) Husband

Practice Exercise Based on new Pattern

Direction (1-2): In the following questions, the symbols #, &, @, *, $, % and © are used with the following meanings as illustrated below. Study the following information and answer the given questions:

A@B- A is the child of B.
A©B- A is the parent of B
A%B- A is elder to B
A&B- A is younger to B
A$B- A is brother of B
A*B- A is wife of B
A#B- A is sister-in-law of B

1. If X©F$D&Q@X©E%D, the age of E is 25 years and age of Q is 32 years, so what can be the age of D?
   (a)27 years   (b)23 years   (c)29 years
   (d)30 years   (e)34 years

2. If G*J$K©Y@V&C and V#G then how K is related to Y?
   (a) father   (b) Brother-in-law
   (c) daughter-in-law   (d) Sister
   (e) None of these

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

In a family of ten people C, G, H, Q, R, S, T, K, U, Y. G and H are married couple. Q is the only sister of R. S is the grandfather of T. U is the son-in-law of H. C is the only child of G. R is grandchild of G. T is the child of U. Q is unmarried. H is the sister-in-law of K. H has no sibling and G is the only son of Y.

3. If J is the son-in-law of C, then how is R related to C?
   (a) Grandson (b) Brother-in-law
   (c) Daughter (d) Father-in-law
   (e) None of these

4. How is Y related to C?
   (a) Grandfather   (b) Grandmother
   (c) Mother   (d) Can't be determined
   (e) Sister

5. How is Q related to S?
   (a) Grandson (b) Brother-in-law
   (c) Granddaughter (d) Father-in-law
   (e) None of these

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

There are some members in the family. L is brother of M, who has only one son. A is the sister-in-law of R and is the mother of D. R is the child of M. A is daughter-in-law of K. G and T are siblings. G is the son of L. S is the sister-in-law of M and has only two sons. D is not the female member of the family. T and G are the cousins of J. S is not the sister of K, who is the grandmother of E. J has only one daughter. R is the daughter of K.

6. How is M related to J?
   (a) Brother   (b) Mother   (c) Father
   (d) Sister   (e) None of these

7. How is M related to 'T'?
   (a) Father   (b) Brother-in-law
   (c) Mother   (d) Grandfather
   (e) None of these

Direction (8-10): In the following questions, the symbols #, &, @, * , $, % and © are used with the following meanings as illustrated below. Study the following information and answer the given questions:

A@B- A is the child of B.
A©B- A is the parent of B
A%B- A is elder to B
A&B- A is younger to B
A$B- A is brother of B
A*B- A is wife of B
A#B- A is sister-in-law of B

8. If Y%H@J$U&K%Y, the age of H is 22 years and age of K is 33 years, so what can be the age of Y?
   (a)17 years   (b)13 years   (c)29 years
   (d)40 years   (e)36 years

9. If G©A@T#J*O$L@P©G then how is J related to A?
   (a) Uncle   (b)Brother-in-law
   (c) daughter-in-law   (d)Aunt
   (e) None of these

10. If G©A@T#J*O$L@P©G and P is the wife of U then how is P related to T?
    (a) Mother   (b)Mother-in-law
    (c) sister-in-law   (d) daughter-in-law
    (e) None of these

Directions (11-12): Study the following information carefully and answer the questions given below:

All the persons mentioned belong to one family. Z is the only sibling of Y, who has only one daughter. M is married to N. O is grandchild of Y, who is not in same generation as M. L is aunt of O. N is mother-in-law of V. V and Z are sister-in-law of each other. S is married to R but is not a female.

11. How many married couples are there in the family?
    (a) one   (b) two   (c) three
    (d) four   (e) can't be determined

12. How many generations are there in the given family?
    (a) one   (b) two   (c) three
    (d) four   (e) can't be determined

Direction (13-14): Study the following information carefully and answer the question given below-

There are nine members in the family. M is unmarried sibling of F. B is sister-in-law of D. C is mother-in-law of E, who is parent of F. E has a daughter and a son. H is the only child of F. B has a sister and a brother. The maximum number of members are in the oldest generation. G is the maternal grandmother of H. A is the unmarried.

Quantitative Aptitude

Simplification, Approximation and Number Series

👉 **BEST APPROACH TO SOLVE THE QUESTIONS**

Simplification: Simplification simply means simplifying the complex expressions. There are ways available always which are simpler, easier and faster to calculate a particular complex expression. Questions related to simplification can be solved in variety of ways. But in examination where one needs to calculate as fast as possible, applying good simplification techniques may serve a good purpose. The most interesting about numbers is that they can be expressed in an innumerable number of ways and thus comes the concept of breaking the expression in such a way that one reaches the answer in less time.

Following are some examples citing the ways to simplifying an equation or expression.

1. $\frac{9}{2} + \frac{11}{3} + \frac{17}{6} = ? + \frac{12}{5} + \frac{16}{10} + 27 \times 33$

    $\Rightarrow \frac{27+22+17}{6} = ? + \frac{24+16}{10} + (30-3)(30+3)$

    $\Rightarrow \frac{66}{6} = ? + 4 + 900 - 9$

    $\Rightarrow ? = 11 + 9 - 900 - 4 = -884$

2. $? \times 65 \div 72 = 195 \times 312 + 260 \times 6$

    $\Rightarrow \frac{? \times 65}{72} = 65 \times 6(3 \times 52 + 4 \times 1)$

    $\Rightarrow ? = 72 \times 6 \times 160 = 432 \times 160 = 69120$

Approximation Questions based on approximation are usually easy to solve but turn out to be a bit difficult when approximate values are not clearly visible. In case where a value like 17.97 is given, it is easy to replace it with 18. But cases where values like $\frac{120}{13}$ or $\frac{101}{11}$ are given, then approximate values can be used by making appropriate adjustments to other terms of the expression.

Let's, for example, try to find out the approximate value of expression given below:

$\frac{66}{16} + \frac{50}{17} + 41\% \text{ of } 97 = ?$

The value of $\frac{66}{16}$ is a bit more than 4 and that of $\frac{50}{17}$ is a bit less than 3. So we may take value of $\frac{66}{16}$ and $\frac{50}{17}$ to be equal to 4 and 3 respectively.

We know 40% of 100 is equal to 40. As 41 near to and greater than 40 and 97 is near to and smaller than 100, we may take the approximate value of $41\% \text{ of } 97$ to be equal to 40 itself.

This way, the approximate value of the above expression= 4+3+40=47

A few sample problems:

$\frac{178}{12} - \frac{217}{18} + 33 \times 41 = ? - 32\% \text{ of } 207 \Rightarrow 15 + 12 + 33(40+1) = ? - 33\%$ of 200

$\Rightarrow 27 + 1355 = ? - 66 \Rightarrow ? = 1450$

$\frac{19.95}{4} + \frac{68.12}{17} - 12.5\% \text{ of } 127.9 = ?$

$\Rightarrow \frac{20}{4} + \frac{68}{17} - \frac{1}{8} \times 128 = ?$

$\Rightarrow 5 + 4 - 16 = ? \Rightarrow ? = -7$

Number Series When different numbers are arranged in any mathematical and logical pattern, a number series is said to be formed. There may be infinite such patterns. So it's really difficult to find out one out of them. But there is one element that gives us the idea of any pattern.

That element is the difference of the terms of a number series. By finding the difference of consecutive terms of a series we can make out the pattern on which the number series is based. Some patterns are clearly visible but others can be found out by cracking the pattern of the differences.

A few examples follow:

1. 45, 44, 48, 39, 55, 30, 66

2. 3, 9, 23, 97, 479, 2881, 20159

3. 10, 12, 15, 22, 38, 70, 127

Adda247 Publications   For More Study Material

CLICK HERE TO BUY BOOK

☞ **BEST APPROACH TO SOLVE THE QUESTIONS**

Alligation is a method used to solve problems concerned with weightage average. Or, in other words, alligation is just a way of writing equations of weightage average for the easy calculation. Problems involving mixtures or any form of weightage average can be solved easily using the method of alligation.

Questions related to replacement, addition or omission of components of mixture may be easily solved using fractions. Be it in form of ratio or by taking volume into consideration. A very useful formula for problems based on mixtures is given below:

Final ratio= Initial ratio (fraction of component remained)
Final volume= initial volume (fraction of component remained)
A few sample problems explaining the concept of alligation are given below.

Example 1: 'An alloy containing 50% gold is formed by melting two metals A and B. Metal A contains $66\frac{2}{3}$% gold while metal B contains 40% gold. Find the ratio in which metal A and B are mixed to form the alloy.'

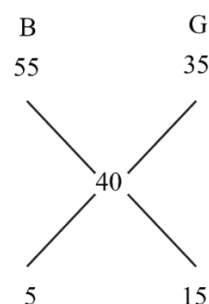**Solution:** Let's take the fractional equivalents of given percentages and calculate using alligation.
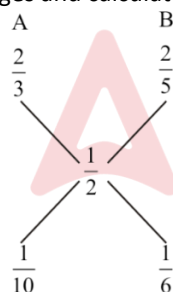
$$A \qquad B$$
$$\frac{2}{3} \qquad \frac{2}{5}$$
$$\frac{1}{2}$$
$$\frac{1}{10} \qquad \frac{1}{6}$$
$$3 : 5$$

Hence, required ratio is 3:5.

Example 2: 'Average weight of boys in a class is 55kg while average age of girls in the same class is 35. If the average of all the students in the class is 40 kg, find the ratio of boys and girls in the class.'

Solutions:

$$B \qquad G$$
$$55 \qquad 35$$
$$40$$
$$5 \qquad 15$$
$$1 : 3$$

Required ratio is 1:3.

Example 3: 'A can contains mixture of two liquids A and B in the ratio 7 : 5. When 9 litres of mixture are drawn off and the can is filled with B, the ratio of A and B becomes 7 : 9. How many litres of liquid A was contained by the can initially?'

Solution: Since B is filled by replacing some amount of mixture, we should take A into consideration

Initial ratio of A to the whole mixture = 7/12
Final ratio of A to the whole mixture = $\frac{7}{16}$
Using formula, $\frac{7}{16} = \frac{7}{12} \times y$ Or, $y = \frac{12}{16} = \frac{3}{4}$
This shows the mixture remained $\frac{3}{4}$ th of itself which means $\frac{1}{4}$th part was drawn off.
ATQ, $\frac{1}{4}$ of total = 9
Or, total mixture = 9 × 4 = 36 litres
Initial amount of liquid A = $\frac{7}{12} \times 36 = 21$ litres

Practice Exercise Based on new Pattern

1. 150 kg of alloy containing copper and zinc in the ratio 3 : 2 mixed with 'X' kg of alloy containing copper and zinc in the ratio 2 : 3. If the overall alloy should contain copper between 45% to 55%, what can be minimum value of X?
   (a) 450 kg
   (b) 100 kg
   (c) 50 kg
   (d) Cannot be determined
   (e) None of these

2. Three different liquids which have 10% water, 20% water and x% of water are mixed in the ratio of their quantity 2 : 3 : 4 respectively. If 12% of water is present in final mixture. Calculate value of x.
   (a) 9%   (b) 20%   (c) 7%
   (d) 15%   (e) 17%

3. 'x' liters of a 30% alcohol solution is mixed with 40 liters of 60% alcohol solution & a resultant of 50% alcohol solution is formed. Now '3x' liters of y% alcohol solution is added to 30 liters of 50% alcohol solution which resulted in 45% alcohol solution. The ratio of y : x is
   (a) 17 : 6   (b) 16 : 15 (c) 7 : 15
   (d) 14 : 5   (e) 17 : 8

29. There are two containers A and B filled with oil with different prices and their volumes are 140 litres and 60 litres respectively. Equal quantities are drawn from both A and B in such a manner that the oil drawn from A is poured into B and the oil drawn from B is poured into A. The price per litre becomes equal in both A and B. How much oil is drawn from each of A and B:
(a) 40 litre (b) 80 litre (c) 30 litre
(d) 21 litre (e) 42 litre

30. A shopkeeper has two types Wheat i.e Type A & Type B and cost price per kg of Type A wheat is 10 times of cost price per kg of type B wheat. Shopkeeper cheated a costumer by saying that he will give him 200 kg of Type A wheat but shopkeeper gives 200 kg of mixture of Type A & Type B wheat on 10% above the cost price per kg of Type A wheat. If shopkeeper made a total profit of $71\frac{7}{8}\%$ in this transaction, then find ratio between quantity of Type B wheat to Type A wheat in sold mixture?
(a) 2 : 5 (b) 2 : 3 (c) 1 : 3
(d) 2 : 7 (e) 1: 5

31. Two farmers A & B have mixture of urea & Potassium in the quantity of 120 kg and 80 kg respectively. The mixture of farmer A has $37\frac{1}{2}\%$ potassium and the mixture of farmer B has 40% potassium. If farmer A used 60% of his mixture & B used 50% of his mixture and both gives their remaining mixture to farmer C, who have already an equal quantity of urea & Potassium. If ratio of urea & Potassium in resulting mixture of farmer C is 7 : 5, find total initial quantity of mixture farmer C had?
(a) 24 kg (b) 36 kg (c) 32 kg
(d) 42 kg (e) 48 kg

32. Vessel A, B and C contains mixture of milk and water. Ratio of the quantity of A, B and C is 25 : 20 : 18 respectively. In vessel A milk to water ratio is 2 : 3 and in vessel B water to milk ratio is 2 : 3. If vessel C contain milk to water ratio is 4 : 5 and all the mixture of 3 vessel poured to another vessel D then in vessel D quantity of water exceeds by 6 litres than the quantity of milk in that vessel. Find out the quantity of mixture contained in vessel A, B and C.
(a) 50 Ltr., 40 Ltr., 36 Ltr. (b) 25 Ltr., 20 Ltr., 18 Ltr.
(c) 75 Ltr., 60 Ltr., 54 Ltr. (d) 100 Ltr., 80 Ltr., 72 Ltr.

(e) None of these

33. In a party a tank is filled with some quantities of juice. Three vessels of different volume are used to serve the juice. Volume of the smallest vessel is 25% less than volume of second largest vessel and the volume of second largest vessel is $33\frac{1}{3}\%$ less than volume of the largest vessel. If 5 times the juice is served by largest vessel, 8 times juice is served by second largest vessel and finally when $3\frac{1}{3}$ times juice is served by the smallest vessel, the tank gets emptied completely. Find the total quantity of juice served by second largest vessel is what percent of volume of the tank?
(a) $42\frac{4}{9}\%$ (b) $44\frac{4}{9}\%$ (c) $48\frac{4}{9}\%$
(d) $40\frac{4}{9}\%$ (e) $36\frac{4}{9}\%$

34. There are three fruit sellers Ramesh, Suresh and Vikash, all of them have a mixture of two types of apple. Ramesh has (x+18) kg of apple, Suresh has 12 kg of apple more than that of Ramesh while Vikash has 3 kg of apple more than that of Suresh. The two types of Apple are mixed in the ratio of 5 : 3, 2 : 3 and 4 : 3 for them respectively. If Ramesh sold 16 kg of mixed apple and added 12 kg of second type of apple then the new ratio becomes 5 : 6 for him. Vikash added y kg of second type of apple to his mixture and thus the new ratio of both types for him is 1 : 1. Then find the value of y.
(a) 8 kg (b) 9 kg (c) 10 kg
(d) 6 kg (e) 7 kg

35. There are two vessels, vessel A and vessel B. Vessel A contains milk and water in the ratio 5 : 4 and vessel B contains Y litre of wine. 18 litre of mixture from vessel A is taken out and poured in vessel B. Now, 10 litre of mixture from vessel B is taken out and poured in vessel A. If quantity of wine in vessel A is found to be 4 litre then, find the initial quantity of wine in vessel B.
(a) 8 L (b) 9 L (c) 10 L
(d) 12 L (e) 6 L

Solutions

1. (c); If overall alloy contain copper as 45%
$\left(150 \times \frac{3}{5} + \frac{2x}{5}\right) = \frac{45}{100}(150 + x)$
$\left(90 + \frac{2x}{5}\right) = \frac{9}{20}(150 + x)$
$1800 + 8x = 1350 + 9x$
$x = 450$ kg
If overall alloy contain copper as 55%
$\left(90 + \frac{2x}{5}\right) = \frac{55}{100}(150 + x)$
$1800 + 8x = 1650 + 11x$
$3x = 150 \Rightarrow x = 50$ kg
Minimum value of X is 50 kg

2. (c); Let the quantity of three liquids is 200a, 300a and 400a
10% of water in first type means 20a water
20% of water in second type means 60a water
x% of water in third type means 4xa water
∴ ATQ,
$\frac{20a+60a+4xa}{900a} = \frac{12}{100} \Rightarrow 4xa = 108a - 80a \Rightarrow x = \frac{28a}{4a} = 7$

3. (e); From statement I
$\frac{x \times \frac{30}{100} + 40 \times \frac{60}{100}}{(x+40)} = \frac{1}{2} \Rightarrow \frac{(2400+30x)}{100(x+40)} = \frac{1}{2} \Rightarrow x = 20$
Now from statement II
$\frac{\left(3x \times \frac{y}{100} + 30 \times \frac{50}{100}\right)}{3x+30} = \frac{45}{100}$

☞ **BEST APPROACH TO SOLVE THE QUESTIONS**

INTRODUCTION:

We all know that definition of average is sum of magnitude (weight, age, marks or any measurable quantity) of all quantities divided by total number of all quantities. **Always remember, if you are calculating average you are making all the quantities equal.**

For eg. three brothers have number of candies with them is 9, 11 and 16. But their mom took all the candies and distribute 12 to each. Average in some questions referred as 'Arithmetic mean'.

Questions from this topic are extremally easy and doesn't require as much time or sharp concept, mostly questions are asked in the form of average of ages.

Example: Marks obtained by seven students are 70, 85, 95, 86, 74, 83 and 67. What is average marks obtained by them.

Solution: Sum of magnitude of all the observations is $70 + 85 + 95 + 86 + 74 + 83 + 67 = 560$.

Required average $= \frac{560}{7} = 80$.

NOTE: Please avoid short cut tricks mentioned in many books for such small calculations. Those tricks are more time consumable. There is other very simple and only trick that you must apply. Look at next question.

Example: Average age of 4 members of a family is 28 years and average increases by 2 years when one of their relative joins them. Calculate the age of relative.

Solution: Easy one! Let age of relative is x years. Total age of family before joining the relative = 4×28=112

After joining the relative $\frac{112+x}{5}$ = 28+2, which gives us x = 38 years.

Right approach? Or wrong?

Try this approach, Imagine, they all have 28 rupees/candies/marbles before their relative joins them. When he comes, they all have Rs 30 each. What does it mean? It means their relative gave Rs 2 to all 4 of them and even then, he was left with Rs 30, as average means amount is distributed equally. How much he had given to them? Rs. 8, Right? Therefore, he initially had total of Rs 38 with him.

Why to waste paper and time if we can do it mentally. Try next question.

Example: Average marks scored by a student in 4 subjects is 75. But when marks of English are added to it, overall average became 70. How much did he score in English?

Solution: Let 4 men have 75 gold coins each and when 5th one joins them, each of those 4 men/exams gave 5 coins/marks to 5th one. And after taking 5 coins from 4 persons, 5th have total 70 coins. It means he initially had 50 coins and that the answer.

Example: Average marks scored by a student in 5 subjects was 79. But when average is calculated for 4 subjects (without Hindi) it was 4 lesser than the average of 5 subjects. What was the marks scored by him in Hindi?

Solution: Again let 5 men have 79 candies each and when one of them leave, he took all candies belonging to him. It means each of these 4 had borrowed 4 candies from him. He took 79 candies that was with him, plus these 4 persons returned 16 of his. Therefore, he had 95 candies or marks whatever you assume.

Example: Average run scored by Sachin in 19 innings of year 2007 is 49 runs while total run scored run scored by Afridi in 19 matches were 760. In 20th match, average of Afridi decreased by 2 runs/ match and average run/match increased by 1 for Sachin. What is the difference b/w the scored runs in 20th match by them?

Solution: Average runs by Afridi in 19 innings $\frac{760}{19} = 40$ runs.

His average decreased by 2, which means all the 19 innings/persons have given 2 runs/coins to 20th inning/person. New inning/person borrowed $19 \times 2 = 38$ runs/coins to become equal with others. Therefore, he himself have no money and we can conclude Afridi scored 0 in that match.

While for Sachin, his 19 previous innings got 1 run each and even then, his 20th inning remains with 50 runs. Therefore, total runs by Sachin in 20th inning are 69 runs.

Required difference is 69 runs.

This may look longer when you read it, but once you get the concept you can solve these questions within 30 seconds.

AGES

The questions on ages are of two types either the average age of a group of people is asked or we are given the ratios of ages of friends and we are asked to calculate their individual age or average age. See it through a question.

👉 BEST APPROACH TO SOLVE THE QUESTIONS

The interest can be defined as amount paid by the borrower to the lender in addition to the amount which he had borrowed. In competitive exams, interest is classified into Simple interest (SI) and Compound Interest (CI).

Easiest example, when we borrow money from bank, it doesn't say pay Rs. 100 as interest every year no matter whether you took a loan of Rs 1000 or Rs 100000. They offer us a rate generally in % at which we have to pay interest. This rate is known as Rate of interest (ROI).

For eg. If I borrowed Rs. 500 for 1 year at a rate of 8%/annum. Find the interest that I have to pay.

Always remember, this 8% we have to calculate on the amount we borrowed. 8% of Rs. 500 means Rs. 40, that I have to pay as an interest.

Note: Different forms of ROI may be given or we have to change, as 3% for 3 months or 24% for 18 months. For easier calculation we can normalize these in 12 month/year rate. In above rates, former means 12%/annum and later means 16%/annum.

Now, if I asked what would be amount of interest that I have to pay, If I borrow Rs. 500 for 3 years at same rate?

Here arise difference b/w SI and CI.

SIMPLE INTEREST:

Simple interest simply means that we have to pay same amount of interest every time. If I have to pay interest on Rs. 500 at ROI of 8%/annum for 3 years, it means I will pay
$40 \times 3 = RS\ 120$.

Formula to calculate SI on an amount is
$SI = \frac{PRT}{100}$
Here, P is the amount borrowed and generally it is referred as Principal.
R is ROI in %. (100 in equation is used to because of %)
And T is time in years.

NOTE: If it is asked in a question, that what is interest obtained at the ROI of 10%(or any value) for 5 years on amount of Rs. Z.

In order to save time first calculate mentally $10 \times 5 = 50\%$. Total interest will be 50 % of Principal amount.

COMPOUND INTEREST:

The one liner difference b/w SI and CI is that interest paid for every year is not same. Consider the above example.

Interest accrued in 1st year = Rs. 40
In CI principal amount changes, after 1year principal amount will be Rs. 540 not Rs. 500.

After second year interest obtained on Rs. 540 is $\frac{8}{100} \times 540 =$ Rs. 43.2
And interest after 3 years will be calculated on Rs 540+Rs 43.2= Rs 583.2 i.e $\frac{8}{100} \times 583.2$= Rs. 46.65
And total interest will be 40 + 43.2 + 46.65= Rs 129.85
The formula for amount obtained after the given time period in CI

$A = P\left(1 + \frac{R}{100}\right)^n$

Here A is amount obtained after interest, P is principal, n is number of years R is ROI.

CI= A – P.

In competitive exams, this approach is rarely used because it will be too calculative if time is 3 years and ROI is 17%.

$A = P\left(1 + \frac{17}{100}\right)^3 = P(\frac{117}{100})^3$ Imagine if you started calculating cube of 117 .

Best approach to use in CI is resultant ROI, it makes CI as easy as SI. Eg.
If ROI on Rs.10000 in a scheme is Y%, calculate total interest after two years. Then resultant interest is

$Y + Y + (Y \times Y)/100 = 2Y + \frac{Y^2}{100}$

Resultant interest % on 17%= $2 \times 17 + \frac{17 \times 17}{100}$ = 34+ 2.89= 36.89%.
It is more time saving than traditional method. Little use of mind will help you to solve all kind of problems.
Note that if we can calculate resultant interest % for two years, we can also calculate for three years. Actually general formula for calculating resultant % for two years, if ROI on first year is X% and second year is Y%, then resultant interest % will be

$X + Y + \frac{X \times Y}{100}$

For calculating 3year resultant interest, first calculate resultant interest of first two years and then again use resultant formulae for adding resultant of first two year and ROI of 3rd year.

REMARK: Check 3 years total interest % for ROI 0f 10% whether it comes 33.1%.

DIRECT FORMULAE TO CALCULATE 3 YEARS RESULTANT INTEREST %
3r. 3 r² r³ __
Here, r is ROI

Note that
4 underscores (_ _ _ _) represent 4 digits after decimal. Further, make it clear that _ _ (last two digits are for last two digits of value of r³]
And starting two (_ _) are for value of 3r².
Consider eg.
3r. 3 r² r³_
When r = 2
r³ = 08, r² = 4, 3r² = 12

👉 **BEST APPROACH TO SOLVE THE QUESTIONS**

- Questions asked from this topic generally to test mental ability of a student calculate the time in which a man/team complete the given work while efficiency is given.

- While doing the questions from this topic, a most common approach that student must use is that 'if a man completes 1 unit of work in N days, then amount/part of work done by him in 1 day is $1/N$,'

  Assume that work of man is to eat 100 chocolates and he eats all of them in 10 days, then amount of work done (chocolates eaten) in 1 day is $\frac{100}{10} = 10\ chocolates\ eaten$.

  Or

  If Rashmi can make 10 cakes in 5 hours, then amount of work done (Cake made) by her in 1 hour is $\frac{10}{5} = 2$ cakes.

  Another easy way to solve questions from this topic is % approach i.e 'if a man can complete a work in 20 days, then amount of work done by him in 1 day is $\frac{100}{20}\% = 5\%$.

  Consider an example: Rahul can complete a work in 10 days and Arun can complete the same work in 20 days. Find the time in which the work will be completed if both of them work together.

  There are three approaches to solve this:

(i)   TRADITIONAL APPROACH

If Rahul can complete the work in 10 days, then amount of work done by him in 1 day

$= \frac{1}{10}\ units.$

Similarly amount of work done by Arun in 1 day

$= \frac{1}{20}\ units.$

Hence when both of them work together, total work done is $\frac{1}{10} + \frac{1}{20} = \frac{3}{20}\ units.$

Hence if $\frac{3}{20}\ units\ of\ work\ is\ done\ in\ 1\ day$

Then 1 unit of work will be completed in 20/3 days.

(ii)   LCM APPROACH

In this method, assume the LCM of days as a number of chocolates. LCM of 10 and 20 is 20. Now assume that there were 20 chocolates, and If Rahul take 10 days to eat them all, it can be concluded that he ate 2 chocolates per day. Similarly, Arun can eat 1 chocolate in a day. Therefore,

They both will eat 3 chocolates in 1 day.

Time taken to complete whole work(to eat all of them)$= \frac{20}{3}\ days.$

NOTE: Our answer will be same, we consider any number of chocolates, but for easy calculation purpose we use a number that is easily divisible by number of days given.

(iii)   % APPROACH

This method is kind of same as (i). Consider the work unit as 100% work.

Now note that if Rahul take 10 days to complete 100% of work, then work done by him in 1 day is 10%. Similarly work done by Arun in 1 day is 5%. Therefore, both of them working together will complete 15% of work in 1 day.

100% of work will be completed in $\frac{100}{15} = \frac{20}{3}\ days.$

In all these approaches, 1 common thing that occurs is to calculate amount/part/percentage of work done in 1 day.

LCM approach is best used in the questions in which efficiency of pipe or volume of tank is given. Consider eg.

Example 1:   Pipe A and Pipe B when both opened together can fill a tank in 4 minutes. Pipe A alone can fill it in 16 minutes. Find the time in which pipe B alone will fill the tank.

In traditional way:

Sol.   Tank filled by Pipe A alone in 1 minutes = $\frac{1}{16}\ units.$

Let pipe B alone can fill it in x minutes.

Then tank filled by pipe B alone 1 minute

$= \frac{1}{x}\ unit.$

Therefore, $\frac{1}{x} + \frac{1}{16} = \frac{1}{4}$

$\frac{1}{x} = \frac{3}{16},\quad x = \frac{16}{3}$

LCM APPROACH

Let total units of tank are 16 liters. It means A can fill 1 liter in a minute. Assume that B fills x unit in a minute. Tank was filled in 4 minutes' means

$4(x + 1) = 16$

$x + 1 = 4$

x = 3 units per minute

time taken is $\frac{16}{3}$ minutes.

All this could be done was mentally through LCM method. Give it a try!

MAN-DAYS-HOUR-WORK THEOREM

According to this theorem if more than 1 man of equal efficiency are working together on a same work, then amount/part of work done by them is directly proportional to the time given to work by number of man. In more simple words work done depends on efficiency and total time given.

$$\Rightarrow \frac{m_1 d_1 h_1}{w_1} = \frac{m_2 d_2 h_2}{w_2}$$

Here m_1, m_2 are number of men

d_1, d_2 are number of days

h_1, h_2 are working hours in given days

w_1, w_2 are part/amount of work done.

For eg. 10 men in 5 days can do same amount of work as 5 men in 10 days or if we explore it more we can see 10 men in 6 days working 4 hours a day can do same amount of work as 30 men in 4 days working 2 hours a day.

Please verify above two examples, by assuming a man can eat 1 chocolate in 1 hour and try to solve given problem.

Example 2: 12 Men working 4 hours a day can complete 48% of work in 8 days. Calculate how many men are required to complete 2 units of a work, if they have to complete it in 10 days, 8 hours a day.

Sol. In this type of problems, by default we have to assume that all men have equal efficiency and they do the work with uniform speed.

Applying Man-day-hour formulae

$$\frac{m_1 d_1 h_1}{w_1} = \frac{m_2 d_2 h_2}{w_2}$$

Here,

$m_1 = 12$	$m_2 = ?$
$d_1 = 8$	$d_2 = 10$
$h_1 = 4$	$h_2 = 8$
$w_1 = 48$	$w_2 = 200$

Note that, here $w_2 = 200$ is used because, 2 units of work means 200% of work.

$$m_2 = \frac{12 \times 8 \times 4 \times 200}{48 \times 8 \times 10}$$

$$m_2 = 20$$

Another type of concept that is introduced here is when people with unequal efficiencies are working, for eg. 4 women can do the same amount of work in a given time as 3 men. For these type of questions, we use ratio approach, we simply write

4W= 3M

$$=> \frac{W}{M} = \frac{3}{4}.$$

And then we consider efficiency of a men as 4 units and that of women as 3 units throughout the problem.

Few points to remember:

If the ratio of efficiencies of two persons is x:y then ratio of respective time taken by them is y:x.

If X is N times efficient than Y, time taken by X to complete a work is $\frac{1}{N}$ *times of* time taken by Y.

Total work done by a man of efficiency X in N days is NX units.

Practice Exercise Based on New Pattern

1. Ratio between efficiency of Arun, Yash and Rana is 6 : 4 : 5. All three starts to work together with same efficiency. But Rana, destroys his 60% of work in every evening, due to which they have to work 20 more days then estimated time. Find the estimated days by them to complete the work.
   (a) 80   (b) 76   (c) 84
   (d) 72   (e) 90

2. Pipe P can fill a tank in 24 minutes, pipe Q can fill the same tank in 36 minutes and an outlet pipe can empty the fully filled tank in 48 minutes. Find in how many minutes tank will be filled, if for first minute only pipe P & Q opened together and in second minute all three pipes opened in tank alternatively?
   (a) $15\frac{4}{5} \, minutes$ (b)$13\frac{4}{5} \, minutes$
   (c)$18\frac{4}{5} \, minutes$ (d) $16\frac{4}{5} \, minutes$
   (e)$12\frac{4}{5} \, minutes$

Direction (3-4): One day earning of P, Q and R together is Rs.1026 to do a work. 'P' earns more than R which is same as 'R' earns more than 'Q'. Efficiency of R and Q is 19 : 18.

3. Find the amount earned by R and P together in 5 days to do the same work?
   (a) Rs. 3620   (b) Rs. 3430   (c) Rs. 3510
   (d) Rs. 3310   (e) Rs. 3710

4. S, who's efficiency is average of efficiency of P and Q, can complete a work in 36 days. If P, Q and R work together, and complete that work then find the total wage of Q
   (a) 3888 Rs.   (b) 4104 Rs.   (c) 4320 Rs.
   (d) 3666 Rs.   (e) 4520 Rs.

5. (X+4) men can complete a work in 2X days while (X+12) women can complete same work in (X+8) days. If ratio of efficiency of men to women is 5 : 4 then find in how many days 12 men and 15 women together can complete the same work?
   (a) 32 days   (b) 16 days   (c) 48 days
   (d) 64 days   (e) 80 days

6. A cistern can be filled completely by pipe A and B together in 12 hours. If pipe A works with twice speed while pipe B work with 50% more speed than cistern can be filled completely in 7 hours. Find the capacity of cistern if flow of water through pipe A is 2.5ℓ/ minute.
   (a) 2800 liter   (b) 3150 liter   (c) 3300 liter
   (d) 3650 liter   (e) 4200 liter

7. Ratio of efficiency of A and B in completing a work is 3 : 4. Both started to work together but A left after 2 days. Another person C joins B and they together complete the remaining work in 6 days. If A and B together can complete the work in 8 days then C alone can complete the work.

👉 BEST APPROACH TO SOLVE THE QUESTIONS

The questions based on boats and streams are simply based on the concept of relative speed. Generally, two cases arise when a boat moves. Either the boat moves along the flow of the stream or the boat moves in the direction opposite to that of stream.

1. If boat moves in the direction of stream,
    The net speed is the addition of the speed of stream and boat.
2. If boat moves in the direction opposite to that of stream, the net speed is the difference of their speeds (speed of boat being more than that of stream).

In questions related to boat and streams, usually it happens that one may need to solve complex calculations but using a bit of intelligent guess work one may save a good amount of time.

A sample problem shows one way of approach:

Example: 'A man can row 24 km in upstream and 36 km in downstream in 9 hours. The same man can row 8 km in upstream and 48 km in downstream in 6 hours. Calculate the speed of the stream.'

Sol. The basic approach to this question involves formation of two equations, which are If we assume speed of stream as r and speed of boat as x.

$$\frac{24}{x-r} + \frac{36}{x+r} = 9 \Rightarrow \frac{8}{x-r} + \frac{48}{x+r} = 6$$

It's cumbersome to solve these set of equations. So we need to look at distance travelled in downstream or in upstream. In majority of cases it's better to take HCF of distance travelled in downstream in both cases. HCF of 36 and 48 is 12. Now we have to break 12 in two parts such that, adding or subtracting them, completely divides all the four distance. Try (10,2) (9,3) (8,4) and check whether these fulfill the condition. Or check from option.

In short we can only check this by hit and trial method.

Here, speed of stream=4km/hr and that of boat in still water is 8 km/hr.

Practice Exercise Based on New Pattern

1. A boat goes 28 km downstream and while returning covered only 75% of distance that covered in downstream. If boat takes 3 hr more to cover upstream than downstream then find the speed of boat in still water (km/hr) if speed of stream is $\frac{5}{9}$ m/sec ?
    (a) 8 km/hr (b) 2 km/hr
    (c) 5 km/hr (d) 4 km/hr
    (e) 3 km/hr

2. The ratio of time taken by boat A and boat B to swim a certain distance downstream in a river is 3 : 4 respectively. The time taken by boat B to cover some other distance in upstream is 50% more than the time taken by it to cover the same distance in downstream. What is the ratio of speed of boat A to that of boat B in still water?
    (a) 7 : 5 (b) 7 : 4 (c) 7 : 3
    (d) 7 : 9 (e) 7 : 2

3. There are three points P, Q and R in a straight line in a river such that point Q is equidistant from point P and Point R. Boat travelled from point P to R downstream in 8 hours and from point Q to P upstream in 12 hours. Find the ratio between speed of boat in still water to speed of current?
    (a) 3:1 (b) 2:1 (c) 1:2
    (d) 5:2 (e) 2:3

4. A boat cover 60 km upstream and 60 km downstream in 22.5 hr with its usual speed. If boat double its speed then new upstream speed is 150% more than the usual upstream speed. Find the time taken by boat to cover 80 km in downstream with usual speed.
    (a) 12 hr (b) 20 hr (c) 5 hr
    (d) 16 hr (e) 10 hr

5. A boat covers total distance of 360km downstream in three equal parts with the speed of boat be 4x km/hr, $5x$ km/hr and $7x$ km/hr respectively. If speed of stream is x km/hr and boat takes total 29.5 hours, then find boat will cover total given distance upstream in three equal parts with three givens speeds?
    (a) 36 hours (b) 40 hours (c) 45 hours
    (d) 48 hours (e) 54 hours

6. The speed of two boats A and B in the still water is in the ratio of 3 : 4 and the speed of current is 4km/hr. A start from point P ,45 minutes earlier than B in downstream direction. If B catch boat A in three hours then, find boat B takes how much time to cover 120 km distance each in downstream and in upstream.
    (a) 12 hours (b) 16 hours (c) 18 hours
    (d) 14 hours (e) 20 hours

Mensuration

Questions related to mensuration usually don't involve any short-cut methods for solving a problem. The reason being how can one use short tricks when all one has to do is to deal with formulae. To solve questions faster and in a lucid manner, one must avoid doing unnecessary and multiple calculations. Rather one must calculate only where it is needed. In case, ratio or percentage is asked in the question, then it becomes more easy to do away with hefty calculations and arrive at the answer by using basic elimination methods.

'The length, breadth and height of a room are in the ratio 3:2:1. If the breadth and height are halved while the length is doubled, then the percentage change in total area of the four walls of the room.'

Area of four walls of the room= 2(lh+bh), where l,b and h are length, breadth and height of the room respectively.

As we have been asked the percentage change, let's take length, breadth and height of the room to be 6,4 and 2 respectively.

Then changed values of length, breadth and height would be 12, 2 and 1.

Initial area of four walls= $2 (6 \times 2 + 4 \times 2) = 40$

Final area of four walls= $2 (12 \times 1 + 2 \times 1) = 28$

28 is 70% of 40, which means there has been a reduction of 30%.

'A solid cylinder has height 10 meters and radius R meters. Some part of it is melted and casted into two cones. One of the cones has radius 3cm and height 4cm. The other cone has height 8 cm and radius 6cm. If the ratio of initial curved surface area of cylinder to the sum of curved surface areas of two cones is 4:1, then find the radius of the cylinder.'

Slant height of cone having radius 3cm is 5cm   (PLEASE SOLVE IT PROPERLY)

Slant height of cone having radius 6 cm is 10 cm

Curved surface area of a cone is πrl and that of cylinder is 2πrh

ATQ, $\frac{2\pi \times R \times 10}{\pi(3 \times 5 + 6 \times 10)} = \frac{4}{1}$

➢ R=15cm

Practice Exercise Based on new Pattern

1. The ratio of the radius and height of a cone is 5 : 12. Its volume is $314\frac{2}{7}$ cm. Then its slant height is ?
   (a) 9 cm   (b) 10 cm   (c) 11 cm
   (d) 12 cm   (e) 13 cm

2. If the perimeter of a rectangle and a square are equal and the ratio of 2 adjacent sides of a rectangle is 2:1. Then find the ratio of area of rectangle and area of square.
   (a) 1:1   (b) 1:2   (c) 2:3
   (d) 8:9   (e) 9:4

3. The parameter of a square is equal to the parameter of a rectangle having dimensions 24 cm × 16 cm. Find the circumference of a circle whose diameter is equal to the side of square ?
   (a) $\frac{360}{7}$ cm   (b) $\frac{410}{7}$ cm   (c) $\frac{470}{7}$ cm
   (d) $\frac{440}{7}$ cm   (e) $\frac{460}{7}$ cm

4. Total surface area of a cylinder mounted with a hemispherical bowl on one end is 2552 cm². If height of cylinder is 8 cm then find the volume of the solid body?
   (a) $10443\frac{1}{3}$ (b) $10677\frac{1}{3}$ (c) $10547\frac{1}{3}$
   (d) $10977\frac{1}{3}$ (e) $10787\frac{1}{3}$

5. Sum of Area of circle and a rectangle is equal to 622 sq cm. The diameter of the circle is 14 cm, then what is the sum of circumference of the circle and the perimeter of the rectangle if the length of rectangle is 26 cm ?
   (a) 142cm   (b)132cm   (c)152cm
   (d) 140cm   (e)134cm

6. A copper sphere of diameter 42 cm is drawn into a wire of diameter 70 mm. Then, the length of the wire is?
   (a) 243 cm   (b) 343 cm   (c) 443 cm
   (d) 972 cm   (e) None of these

7. A cylindrical roller rolls over a square field. It takes 500 rounds to cover the complete field. If the radius of the cylindrical roller is 0.63 meter and length is 7.7 m then find out the side of square (approximately).
   (a) 135 m   (b) 125 m   (c) 100 m
   (d) 150 m   (e) 110 m

8. A cuboid is cut along its base such that, now it become a cube. Cube again cut along its base, now ratio of height to length becomes 1 : a. Find the value of 'a'.
   (a) $a > 1$ (b) $a = 1$ (c) $a \geq 1$
   (d) $a < 1$ (e) $a \leq 1$

👉 **BEST APPROACH TO SOLVE THE QUESTIONS**

The best way to define probability is number of favorable outcomes divided by total number of possible outcomes. Eg. When we conduct an experiment of throwing a dice and we have to calculate probability of getting 2.

Now number of favorable outcome is 1 i.e. '2'
And total number of possible outcomes is 6 i.e it may appear '1, 2, 3, 4, 5 or 6' on throwing a dice. Hence probability of getting a '2' is

$= \frac{1}{6}$

If we were asked what is the probability of getting an even number.
Number of possible outcome = 3 (2, 4 or 6)

Probability of getting an even number on throwing a dice $= \frac{3}{6} = \frac{1}{2}$

But the probability in bank exam is not this much easy, we encounter with way more complicated questions.

Example 1: A C++ program shuffles all the letters of a word. When the word INDIA was entered, a new word was given as an output. What is the probability that new word formed is having all the vowels together?

Solution: We need to calculate two things
(i) Total number of possible outcomes
(ii) Total number of favorable outcomes
Imagine how many different words can be formed by re-arranging the words of INDIA.
And then how many different possible words can be formed when 'IIA' of 'INDIA' are together.

To solve these kind of questions we have **PERMUTATION AND COMBINATION.**

Permutation and Combination:

Basic definition: Permutation means different possible arrangement of things taken all or some of them together.
While Combination means different way of selection of things taken all or some of them together.

Eg. Of arrangement/permutation:
There were two chairs numbered 1 and 2. In how many ways A, B and C could sit on them?
SOLUTION: AB or BA, AC or CA and BC or CB. (First person denotes to sit on chair named A). Hence there are 6 possible ways.

Eg. Of selection/ Combination
There were two chairs and three persons. In how many different ways they can sit on chairs?
Solution: Either AB, BC or AC will sit on two chairs. Hence there are 3 possible ways.

The point is arrangement when sequence matters is known as permutation or selecting some or all the persons is called combination.

Before further discussion, let us revise few terms of permutation and combination.
! is called factorial.
N! where N is a natural number is N × (N-1) × (N-2)..... ×1
0! = 1
$^N P_r = \frac{N!}{(N-r)!}$, it is used in permutation cases
$^N C_r = \frac{N!}{C!(N-r)!}$, it is used in combination cases.
E.g. In previous cases.
$^3 P_2 = \frac{3!}{(3-2)!} = \frac{3 \times 2 \times 1}{1} = 6$ arrangements.
$^3 C_2 = \frac{3!}{2!(3-2)!} = 3$ cases of selection.

NOTE:
Though permutation and combination in itself are too big, here we will discuss few of the types of questions that are asked in exam. Look at the previous example of INDIA.

Example 2: What is the probability that after rearranging the word 'INDIA' a new word is formed in which all vowels are together?

SOLUTION: When n things in which p are of one type, q are of one type, then total no. of arrangements of those n things is $= \frac{n!}{p!q!}$
Taking two Is and one A as a single entity, we have in all 3 entities(N,D and the group of Is and A).
Total no. of ways of arranging these three entities is 3!.
Two Is and one A can be rearranged among themselves in $\frac{3!}{2!}$ ways.
Hence, total no. of ways in which all vowels are together is equal to $3! \times \frac{3!}{2!} = 18$.
Total no. of ways in which all letters of word INDIA can be arranged $= \frac{5!}{2!} = 60$.
Hence required probability $= \frac{18}{60} = \frac{3}{10}$

Example: What is the probability that a word formed after rearranging "ARRANGEMENT'' such that all vowels are together?

SOLUTION: Following the same method as that of previous question,
Total no. of ways of rearranging the letters of word ARRANGEMENT $= \frac{11!}{2!2!2!2!} = \frac{11!}{16}$
No. of ways of arranging letters such that all vowels are together $= \frac{8!}{2!2!} \times \frac{4!}{2!2!} = \frac{8!4!}{16}$
Required probability $= \frac{\frac{8!4!}{16}}{\frac{11!}{16}} = \frac{4}{165}$

KEY POINTS: Number of permutation of n things taken all at a time is n! $^N P_r = {}^N C_r \times r!$

Data Interpretation

What is data interpretation: When data is organized into tables and charts it is done with the purpose of making it meaningful. The objective of data interpretation is to assess whether a student can understand bars and charts and Answer some questions based on them. This act of organizing and interpreting data to get meaningful information under a given set of conditions is Data interpretataion.

About data interpretation: This is the calculation intensive portion, it consists of a myrid of graph. charts and tables and analyze data. The key to crack this area is to quickly Identify the key pieces of information that you will require to work on.

Basic key that will help you to solve this topic:
- Calculation
  - Square
  - cube
  - table
  - BODMAS
- Percentage
- Profit and loss
- Ratio and proportion
- Average

Types of Data Interpretation:
- Data table
- Line graph
- Pie charts
- Bar graph
- Mixed graph
  - Line with pie chart
  - Table with Bar
  - Table with Line, etc.
- Radar graph
- Triangular graph
- Case study (Puzzle)
  - Venn Diagram
  - Table format

Approach for data interpretation:
- First you look carefully at the table or graph and the direction. Note the years to which, the data refers to and the units. Sometimes the figures may be given in thousands. While the Answer may be millions Resulting in mistakes.
- The level of approximation that can be done is assessed from the choices. If the answer is wide, time should not be wasted in working out exact figures. If the choice 'none of the above exists, a close approximation may be required'.
- Read the question carefully, it will give an indication as to which row and column should be seen. A carefull reading of the question will reveal exactly what is to be done and the units in which the answer is required.
- There may be one or two very large question requiring calculations. Attempt these at the last.
- Revise bar charts, table and line graphs before attempting D.I. question remember that the D.I. section is a scoring one and also time saving.

Data Table: The numbers in the bracket give the maximum marks in each subject.

The following table gives the percentage of marks obtained by seven students in six different subjects in an examination. Study it and answer the question given below it.

CLICK HERE TO BUY BOOK

Students	Subject (Maximum Marks)					
	Maths (150)	Chemistry (130)	Physics (120)	Geography (100)	History (60)	Computer Science (40)
Golu	90	50	90	60	70	80
Mithi	100	80	80	40	80	70
Suraj	90	60	70	70	90	70
Gapplu	80	65	80	80	60	60
Mahi	80	65	85	95	50	90
Khushi	70	75	65	85	40	60
Sheetal	65	35	50	77	80	80

1. What are the average marks obtained by all the seven students in physics? (Round off two digits after decimal)
   (a) 77.26   (b) 89.14   (c) 91.37   (d) 96.11
2. The number of students who obtained 60% or above marks in all subjects is
   (a) 1   (b) 2   (c) 3   (d) 4
3. What was the aggregate of marks obtained by suraj in all the six subjects ?
   (a) 409   (b) 419   (c) 429   (d) 449
4. In which subject is the overall percentage the best?
   (a) Maths   (b) Chemistry   (c) Physics   (d) History
5. What is the overall percentage of sheetal
   (a) 52.5%   (b) 55%   (c) 60%   (d) 63%

Solution 1: $\frac{1}{7}\left[\left(90\%\,of\,120\right)+\left(80\%\,of\,120\right)+\left(70\%\,of\,120\right)+\left(80\%\,of\,120\right)+\left(85\%\,of\,120\right)+\left(65\%\,of\,120\right)+\left(50\%\,of\,120\right)\right]$

$$=\frac{1}{7}\left[\left(520\%\,of\,120\right)\right]$$
$$=\frac{624}{7}=89.14$$

Solution 2: From the table, it is clear tha that Suraj & Gapplu have 60% or more marks in each of the six subjects.

Solution 3: Aggregate marks obtained by suraj
   = [(90% of 150)+(60% of 130)+(70% of 120)+(70% of 100)+(90% of 60)+(70% of 40)]
   = [135 + 78 + 84+ 70 + 54 + 28] = 449

Solution 4: We shall find the best overall % with respect to each subject: Mathematics

Solution 5: Aggregate marks obtained by sheetal.

   = [(65% of 150)+(35% of 130)+(50% of 120)+(77% of 100) + (80% of 60)+(80% of 40)] = 360

   Maximum marks = 600

   Overall % = $\frac{360}{600}\times 100 = 60\%$

Line Graph:

Answer the question based on the given line graph

Following line graph shows the ratio of export to import of company A and company B over the year
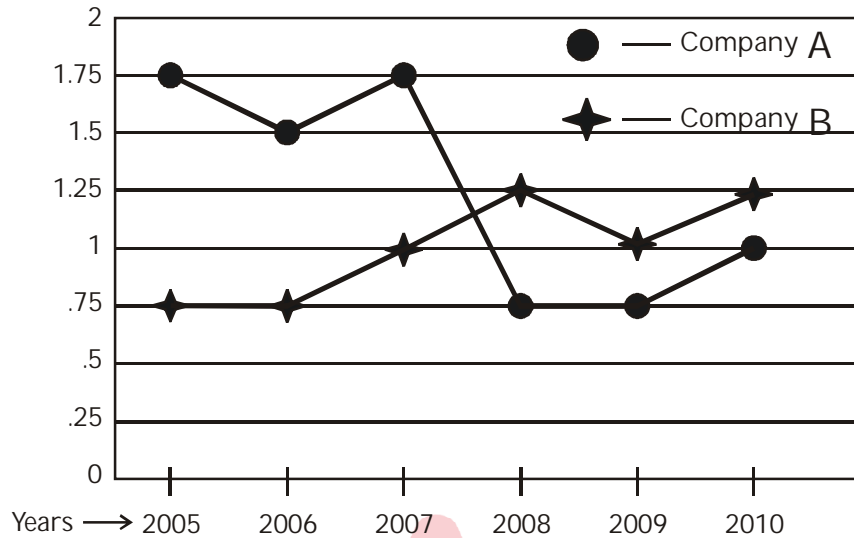
1. In how many of the given years were the exports more than the imports for company A?
   (a) 2   (b) 3   (c) 4   (d) 5

2. If the imports of company A in 2007 were increased by 40%. What would be the ratio of exports to the increased imports?
   (a) 1.50   (b) 1.25   (c) 1.75   (d) 1.35

3. If the exports of company B in 2008 was Rs 237 Crore, what was the amount of imports in that years ?
   (a) 189.6   (b) 188.8   (c) 184.6   (d) 182.8

4. In 2005, the export of company A was double that of company B. If the imports of company A during the year was 180 crore. What was the approximate amount of imports of company B during that year?
   (a) 190 crore   (b) 210 crore   (c) 225 crore   (d) 200 crore

5. In which year were the exports of company A minimum proportionate to its imports.
   (a) 2008 and 2009   (b) 2009   (c) 2008   (d) 2005

Solution 1: required ratio, more than 1 for the years; 2005, 2006 and 2007, ie; for 3 years

Solution 2: In 2007, for company A the ratio of exports to import = 175 : 100

Let exports of company A = 175 x $\Rightarrow$ and imports of company A = 100x

New imports of company = 140% of 100x = 140x

There for requied ratio = $\dfrac{175x}{140x}$ = 1.25

Solution 3: Let import of company B in 2008 = x

Then, $\dfrac{237}{x}$ = 1.25 $\Rightarrow$ x = $\dfrac{237}{1.25}$ $\Rightarrow$ 189.6 crore

Solution 4: In 2005 for company A $\Rightarrow$ Export = 1.75 × 180 crore

in 2005 for company B export = $\dfrac{1.75 \times 180}{2}$ = 157.5 crore,   But $\dfrac{Ex}{Im}$ = .75

Import of company B = $\dfrac{157.5}{.75}$ = 210 crore

Solution 5: 2008 and 2009, A option.

Pie Charts or Circle Graphs:

Distribution of candidate who were enrolled in MBA and the candidate (out of those enrolled) who passed the exam in different institutes

Total number of candidates
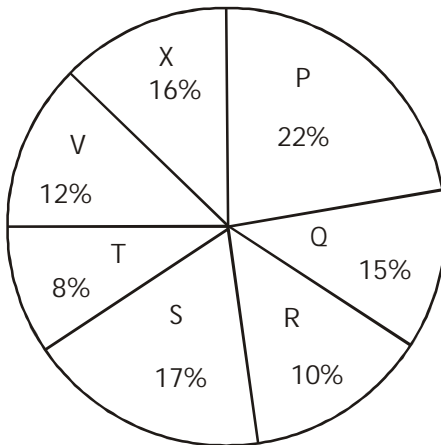enrolled = 8550
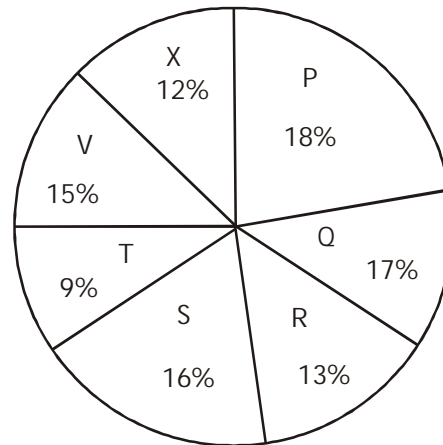
Total number of candidates
who passed the exam = 5700

1. What percentage of candidates passed the exam from institute T out of the total no. of candidate enrolled from the same institute?
   (a) 50%   (b) 52.5%   (c) 75%   (d) 80%
2. Which institute has the highest % of candidates passed to the candidates enrolled?
   (a) Q   (b) R   (c) V   (d) T
3. The no. of candidates passed from institute S and P together exceeds the no. of candidates enrolled from institutes T and R together by?
   (a) 228   (b) 279   (c) 399   (d) 407
4. What is % of candidates passed to the candidate enrolled for institutes Q and R together ?
   (a) 68%   (b) 80%   (c) 74%   (d) 65%
5. What is the ratio of candidates passed to the candidates enrolled from institute P ?
   (a) 9 : 11   (b) 14 : 17   (c) 6 : 11   (d) 9 : 17

Solution 1: Required % = $\dfrac{9\% \text{ of } 5700}{8\% \text{ of } 8550} \times 100 = 75\%$

Solution 2: The % of candidates passed to candidates enrolled can be determined for each institute as under.

For Q $\Rightarrow$ $\dfrac{17\% \text{ of } 5700}{15\% \text{ of } 8550} \times 100 = 75.56\%$;   For R $\Rightarrow$ $\dfrac{13\% \text{ of } 5700}{10\% \text{ of } 8550} \times 100 = 86.67\%$

For T $\Rightarrow$ $\dfrac{9\% \text{ of } 5700}{8\% \text{ of } 8550} \times 100 = 75\%$;   For V $\Rightarrow$ $\dfrac{15\% \text{ of } 5700}{12\% \text{ of } 8550} \times 100 = 83.33\%$

So the highest of these is 86.67% corresponding to institutes R.

Solution 3: Required Difference = [(16% + 18%) of 5700] – [(8% + 10%) of 8550] = 1938 – 1539 = 399

Solution 4: $\dfrac{30\% \text{ of } 5700}{25\% \text{ of } 8550} \times 100 = 80\%$

Solution 5: $\dfrac{18\% \text{ of } 5700}{22\% \text{ of } 8550} = \dfrac{6}{11} = 6 : 11$

Bar Graph: Percentage profit earned by two companies X & Y over the given years.

$$Profit\% = \frac{Income - Expenditure}{Expenditure} \times 100$$

1. The income of two company X and Y in 2010 were in the rato of 3 : 4. respectively. What is the respective ratio of their expenditures in 2010?
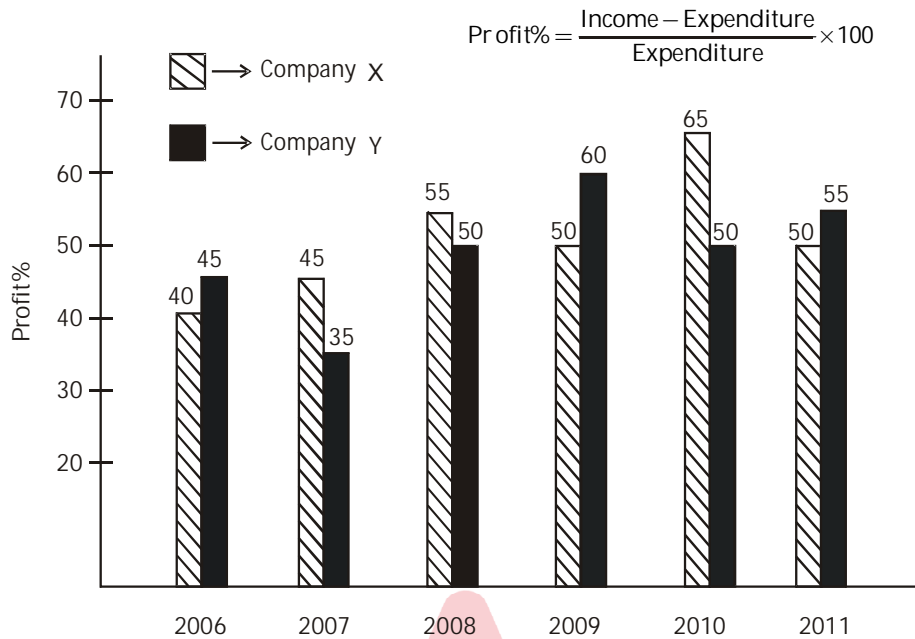   (a) 7 : 22   (b) 14 : 19   (c) 15 : 22   (d) 27 : 35

2. If the expenditure of company Y in 2007 was Rs 220 crore, what was its income in 2007?
   (a) Rs. 312 crore   (b) Rs. 297 crore   (c) Rs. 283 crore   (d) Rs. 275 crore

3. If the expenditures of company X and Y in 2006 were equal and the total income of the two companies in 2006 was Rs 342 crore, what was the total profit of the two company together in 2006?
   (a) Rs. 240 crore   (b) Rs. 171 crore   (c) Rs. 120 crore   (d) Rs. 102 crore

4. The expanditure of company X in the year 2008 was Rs 200 crore and the income of company X in 2008 was the same as its expenditure in 2011. The income of company X in 2011 was?
   (a) Rs. 465 crore   (b) Rs. 385 crore   (c) Rs. 335 crore   (d) Rs. 295 crore

5. If the income of two company were equal in 2009, then what was the ratio of expenditure of company X to that of company Y in 2009?
   (a) 6 : 5   (b) 5 : 6   (c) 11 : 6   (d) 16 : 15

Solution 1: $\dfrac{165\% \text{ of } E_1}{150\% \text{ of } E_2} = \dfrac{3}{4}$ $\Rightarrow$ Therefore, $\dfrac{E_1}{E_2} = \dfrac{15}{22} = 15 : 22$

Solution 2: $220 + 35\%$ of 220 $\Rightarrow$ $220 + 77 = 297$ crore

Solution 3: Let the expenditure of each companies x and y in 2006 be 100

Then we have $100 + 40 + 100 + 45 = 342$ crore $\Rightarrow$ Required profit $= \dfrac{342}{285} \times 85 = 102$ crore

Solution 4: Expenditure of Company X in year 2008 is 200 crore, Then income of company X in year 2008
$= 200 + 55\%$ of $200 = 310$ crore
Hence, the expenditure of company X in year 2011 is 310 crore,
Therefore, the required income of X in year 2011 $= 310 + 50\%$ of $310 = 465$ crore

Solution 5: $\dfrac{150}{100}X = \dfrac{160}{100}Y$

be the incomes of two companies in 2009; $\dfrac{x}{y} = \dfrac{160}{150} = \dfrac{16}{15} = 16 : 15$

58. In 2012, Number of boys in Udaygiri and Shivalik are equal and Number of girls in Shivalik is 540 more than the Number of girls in Udaygiri. If in 2013, Number of boys in both hostels are equal then find the Number of total student in Shivalik, If In 2013 strength of both hostels increases as compare to previous year

(a) 1650   (b) 1200   (c) 960

(d) 1500   (e) 900

59. In 2012 and in 2013 ratio of total strength of Udaygiri to that of Nilgiri is 4 : 5 and 5 : 8 respectively. Find the strength of Nilgiri in 2012 if strength of Udaygiri decreases

(a) 1600   (b) 1200   (c) 1250

(d) 1400   (e) 1750

60. In2013, strength of all hostels increases as compare to 2012. If total strength of hostels in 2012 is 1030, then find the Number of boys in Aravali in 2013 is how much more than the Number of boys in Udaygiri in 2013, given that ratio of strength of Aravali, Nilgiri, Udaygiri and Shivalik is 2 : 3 : 2 : 3 respectively

(a) 80   (b) 100   (c) 120

(d) 90   (e) 10

Solutions

1. (a); Total boys in section 'X" from CMS & Loyola

$= 360 \times \frac{55}{100} \times \frac{7}{9} + 250 \times \frac{50}{100} \times \frac{3}{5}$

$= 154 + 75 = 229$

Total girls in section 'Y' from DPS & SKD

$= 420 \times \frac{(100-60)}{100} \times \frac{10}{21} + 300 \times \frac{(100-55)}{100} \times \frac{1}{3}$

$= 80 + 45 = 125$

Required percentage $= \frac{229}{125} \times 100 = 183.2\%$

2. (b); Total girls in section 'Y' from CMS & SKD

$= 360 \times \frac{(100-55)}{100} \times \frac{2}{3} + 300 \times \frac{(100-55)}{100} \times \frac{1}{3}$

$= 108 + 45 = 153$

Total boys in section 'X' from DPS & SKD

$= 420 \times \frac{60}{100} \times \frac{5}{9} + 300 \times \frac{55}{100} \times \frac{1}{3}$

$= 140 + 55 = 195$

Required ratio $= \frac{153}{195} = 51 : 65$

3. (d); Total number of boys in section 'X' from D.P.S school

$= 420 \times \frac{60}{100} \times \frac{5}{9} = 140$

Required number of students $= 140 \times \frac{5}{7}$

$= 100$

4. (e); Average number of girls in section 'X' from SKD & Loyola

$= \frac{300 \times \frac{55}{100} \times \frac{2}{3} + 250 \times \frac{50}{100} \times \frac{2}{5}}{2} = \frac{110+50}{2} = 80$

Average number of boys in section 'Y' from LPS & CMS

$= \frac{450 \times \frac{(100-48)}{100} \times \frac{4}{9} + 360 \times \frac{(100-55)}{100} \times \frac{1}{3}}{2}$

$= \frac{104+54}{2} = 79$

Required difference $= 80 - 79 = 1$

5. (b); Total girls in section 'Y' from CMS & LPS together

$= 450 \times \frac{(100-48)}{100} \times \frac{5}{9} + 360 \times \frac{(100-55)}{100} \times \frac{2}{3}$

$= 130 + 108 = 238$

Total boys in section 'X' from DPS & SKD

$= 420 \times \frac{60}{100} \times \frac{5}{9} + 300 \times \frac{55}{100} \times \frac{1}{3}$

$= 140 + 55 = 195$

Required difference $= 238 - 195 = 43$

6. (a); Applicants got final selection in the year 2017=

$8400 \times \frac{60}{100} \times \frac{1}{8} \times \frac{40}{100} \times \frac{25}{100} = 63$

Applicants got final selection in the year 2014

$= 3200 \times \frac{75}{100} \times \frac{30}{100} \times \frac{25}{100} \times \frac{45}{100} = 81$

Required percentage $= \frac{81-63}{81} \times 100$

$= \frac{18}{81} \times 1100 = \frac{2}{9} \times 100 = 22\frac{2}{9}\%$

7. (d); Total applicants got final selection in the year's 2013 & 2016 together

$= 2400 \times \frac{85}{100} \times \frac{25}{100} \times \frac{40}{100} \times \frac{25}{100} + 7500 \times$
$\frac{80}{100} \times \frac{25}{100} \times \frac{20}{100} \times \frac{30}{100}$

$= 51 + 90 = 141$

Total applicants got final selection in the year 2014 & 2015 together

$= 3200 \times \frac{75}{100} \times \frac{30}{100} \times \frac{25}{100} \times \frac{45}{100} + 4800 \times$
$\frac{90}{100} \times \frac{20}{100} \times \frac{25}{100} \times \frac{25}{100}$

$= 81 + 54 = 135$

Required difference $= 141 - 135 = 6$

8. (a); Applicants qualified in tie II but did not get final selection in the years 2017

$= 8400 \times \frac{60}{100} \times \frac{1}{8} \times \frac{40}{100} \times \frac{(100-25)}{100} = 189$

Applicants qualified in tier but did not qualify for tier II in the year 2014

$= 3200 \times \frac{75}{100} \times \frac{30}{100} \times \frac{(100-25)}{100} = 540$

Required ratio $= \frac{189}{540} = 7 : 20$

9. (d); Total appeared applicants for tier I in the year 2017=

$8400 \times \frac{60}{100} = 5040$

Total appeared applicants for tier II in the year 2015

$= 4800 \times \frac{90}{100} \times \frac{20}{100} = 864$

Required percentage $= \frac{5040-864}{864} \times 100$

$= \frac{4176}{864} \times 100 = 483\frac{1}{3}\%$

10. (b); Total number of applications did not qualify in tier I in the year 2014, 2016 and 2017

Arithmetic Data Interpretation

👉 **BEST APPROACH TO SOLVE THE QUESTIONS**

INTRODUCTION: DI stands for DATA INTERPRETATION. Interpretation means representing a data in a sensitive way after analyzing it well. In all the banking exam or particularly quant section of bank, DI plays vital role. The basic DI consists of pie table, bar graph, numerical value table or graph.

Look at this example:
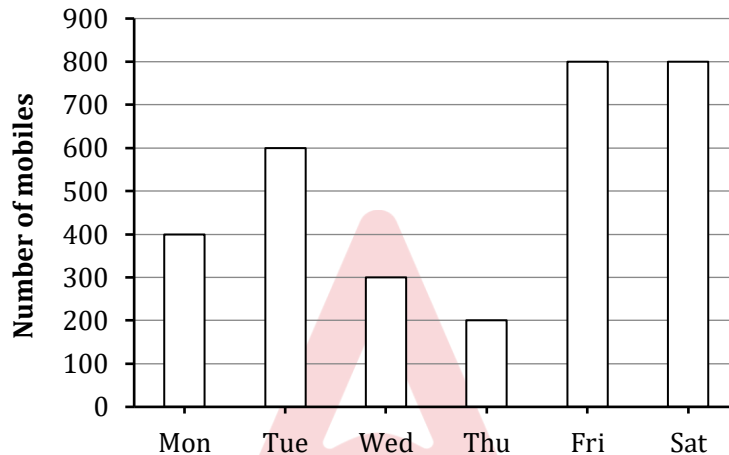
Instead of telling 'number of mobiles sold' for each day it is represented in the graph. So that it is more visible and interested for a reader in this form.

Common form of DI are ratios, percentages or average.

ARITHMETIC DI

Arithmetic DI means representing arithmetic equations and conditions in bar graphs, line graph, pie graph or in any other form of DI. The questions on arithmetic DI also cover major portion in mains of any banking exam. So it is necessary to understand the actual concept. Easy way to understand this is through an example.

Total Road construct = 3600 meters
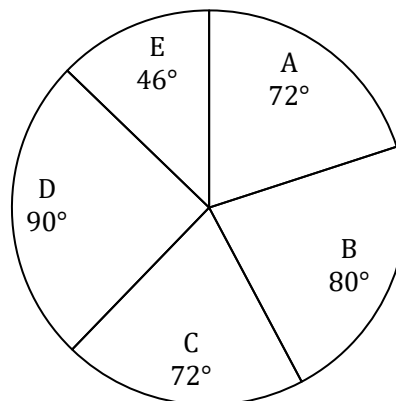
In this pie chart, portion of 'Road construct' is given for 5 different companies. For eg. Company A constructs $\frac{72}{360} \times 3600 = 720$ meters road. Now to make question more complicated different individual for each team may be given. Let us consider through a bar graph.

64. All five starts working together to complete work **'X'**. 'Veer' left after 8 days. Work done by 'Bhavya' is same as work done by 'Neeraj' while 'Abhi' and 'Neeraj' worked for same time. 'Satish' worked for 'y' days. If 'Bhavya', 'Neeraj' and 'Satish' together can complete work 'X' in 24 days then find the value of 'y' if Bhavya worked for starting 10 days.
(a) 7 days (b) 9 days (c) 11 days
(d) 13 days (e) 15 days

65. Abhi and Neeraj together can complete work **'Z'** in (A + 42) days while Bhavya and Satish together can complete work 'Z' in (A + 15) days. All start the work Z such that ratio between work done by Abhi, Bhavya and Veer is 1 : 2 : 3, while ratio between days, Neeraj, Satish and Veer worked is 2 : 2 : 1. Find how many days 'Bhavya' worked.
(a) 10 days (b) 15 days (c) 20 days
(d) 30 days (e) 40 days

66. All five persons started together to complete work **'Y'**. Veer worked for starting 6 days and left the work. After 3 days more both Bhavya and Satish left too. Remaining 40% work should be completed by Abhi and Neeraj together but 'Abhi' left after 'x' days. Remaining work is completed by 'Neeraj' in 'z' days. If 'z – x = 3', then number of days for which 'Neeraj' worked is what percent more than number of days for which 'Abhi' worked.
(a) $33\frac{1}{3}\%$ (b) 50% (c) $66\frac{2}{3}\%$
(d) 75% (e) 100%

67. Abhi, Bhavya and Neeraj together starts to do work **'M'**. After 7 days 'Neeraj' left and after 3 days more 'Abhi' and 'Bhavya' left. Remaining work is completed by Satish and Veer working alternatively in 'y' days. If 'y' is integer then find 'Veer' worked for how many days?
(a) 3 days (b) 4 days (c) 5 days
(d) 6 days (e) Cannot be determined

68. Abhi, Bhavya and Satish starts working together to complete work **'M'**. After 5 days, Bhavya and Satish replaced by Neeraj and Veer. After 5 more days Abhi left the work. After 1 more day Veer left too. Neeraj worked for total **'x'** days. In other case Abhi and Bhavya starts working together to complete **'M'**. After 4 days both are replaced by Veer. Veer worked for 5 days and replaced by Satish who worked for 8 days. Remaining work is completed by Neeraj in **'y'** days. Find $(y - x)^2$?
(a) 25 (b) 36 (c) 49
(d) 64 (e) 81

Solutions

Solutions (1-4): Total work = 5040 units (LCM of days taken by all)

Efficiency of Neeraj = $\frac{5040}{35}$ = 144 units/hour

Efficiency of Aniket = $\frac{5040}{30}$ = 168 units/hour

Efficiency of Saurabh = $\frac{5040}{45}$ = 112 units/hour

Efficiency of Gopal = $\frac{5040}{16}$ = 315 units/hour

Efficiency of Veer = $\frac{5040}{24}$ = 210 units/hour

Efficiency of Sameer = $\frac{5040}{18}$ = 280 units/hour

1. **(a);** New efficiency of Neeraj = $144 \times \frac{7}{8}$
= 126 units/hour
New efficiency of Gopal = $315 \times \frac{2}{3}$
= 210 units/hour
Required time = $\frac{5040}{(126+112+210)} = 11\frac{1}{4}$ hours

2. **(c);** New efficiency of Sameer = $280 \times \frac{3}{4}$
= 210 units/hour
ATQ –
$\frac{(210+210\ )(y)}{168(y+1)} = \frac{2}{1}$
420y = 336y + 336
420y – 336y = 336
y = 4 hour

Total work = $420 \times 4 + 168 \times 5$
= 2520 units
Neeraj will complete alone in = $\frac{2520}{144}$
= $17\frac{1}{2}$ hours

3. **(d);** Divyaraj work in one hour = 144×1.5
= 216 units
Manish work in one hour = $168 \times \frac{75}{100}$
= 126 units
Let Saurabh work for n hours and Divyaraj & Manish work for (n + 11.5) hours
ATQ –
$N \times 112 + (216 + 126)(n + 11.75)$
= 5040
112n + 342n = 5040 – 4018.5
n = $\frac{1021.5}{454}$
n = 2.25 hours
Total time = (2.25 + 2.25 + 11.75)
= $16\frac{1}{4}$ hours

4. **(d);** Total work completed by Neeraj, Aniket, Veer and Sameer together in one hour
= (144 + 168 + 210 + 280) = 802 units

👉 **BEST APPROACH TO SOLVE THE QUESTIONS**

Data Sufficiency

These questions formerly asked in only MAINS Examination but now-a-days these questions were seen in PRELIMINARY Examinations too. So, student can't deny the importance of DATA SUFFICIENY Questions.

In these questions some data are given in form of statements and one question is asked. Student must choose that statement/statements which is/are sufficient to solve the given question.

They consist of two types. In first type, two statements are given while in second type, three statements are given, and student is expected to choose the statement/statements among the given statements which is/are required to solve the question. Five questions of each type are given below to practice this topic.

Example1.

What is the length of train 'A'?

A. Train A takes 8 second to cross a pole

B. Train A cross train B coming from opposite side in 8 second, speed of train B is 25 m/sec and length of train B is half of train A.

C. Train A takes 10 sec to cross two pole 100 m apart.

(a) Only A and B together

(b) Only A and C together

(c) Any two of them

(d) Either B alone or A and C together

(e) All statements are required

Solution:

1. **(c);** Let length of train A = L

   Speed of train A = x

   From A = $\frac{L}{x} = 8$

   From B = $\frac{L+0.5L}{x+25} = 8$

   From C = $\frac{L+100}{x} = 10$

   From any of these two-statement question be solved.

Example 2:

In how many days B and C together can complete work?

A. Per day efficiency of A, B and C is in the ratio 3 : 2 : 4

B. A and B together can complete the work in 7.2 days

C. Time taken by A, B and C alone to complete the work is in the ratio 4 : 6 : 3.

(a) Only A and B together

(b) Either A and B or B and C

(c) Any two of them

(d) Either B alone or A and C together

(e) All statements are required

Solution:

2. **(b);** From A per day efficiency = 3 : 2 : 4

   ⇒ ratio of time taken by A, B and C alone to complete work = 4 : 6 : 3 same as (C)

   From B) time taken by A and B together = 7.2 days

   Either B and A or B and C questions can be solved

Example3:

What is the base radius of the cone?

A. Total surface area of the cone is 462 cm²

B. Volume of the given cone is $\frac{1078\sqrt{3}}{3}\ cm^3$ and height = $7\sqrt{3}$ cm

C. Ratio of height and radius of the given cone is $\sqrt{3} : 1$

(a) Only A and B together

(b) Only A and C together

(c) Any two of them

(d) Either B alone or A and C together

(e) All statements are required

Solution:

3. **(d)** From A) T.S.A = $\pi r \ell + \pi r^2$ = 462 cm²

   From B) V = $\frac{1078\sqrt{3}}{3} = \pi r^2 \frac{h}{3}$

   And h = $7\sqrt{3}$ cm

   From C) h : r = $\sqrt{3} : 1$

   Either B alone or A and C together, question can be solved.

Example 4:

Find the share of Satish in profit after one year among Satish, veer and Yogesh

A. Investment of Veer, Satish and Yogesh is in the ratio 6: 8: 9 and share of Yogesh in profit is Rs.900

B. Satish and Veer invested Rs.8000 and Rs.6000 for 9 months and one year respectively. Difference b/w profit earned by Satish and Veer is Zero.

C. Satish, Veer and Yogesh invested for 9 months, 1 year and 8 months respectively and share of Veer in profit is 900.

Caselets

👉 **BEST APPROACH TO SOLVE THE QUESTIONS**

A Caselet is another way of providing data, more often, explicitly. Unlike various graphical methods of data representation, a caselet requires to be solved completely before arriving at the answers to the questions that follow it. Usually, in a caselet, data is provided through statements that imply the logic or relation of various components of data. Some caselets are based on Set Theory and concepts of Set theory are applied to them. All other caselets are based on basic mathematical understanding.

A sample example of a caselet is as follows:

'PO' exam in Lucknow is 60% more than candidates who are appearing for same exam in Agra. Number of candidates appearing for 'PO' exam in Allahabad is 48% of total candidates appearing for 'PO' exam. Ratio between total candidates appearing for 'PO' exam and 'Clerk' exam is 5 : 9. Difference between candidates appearing for 'PO' exam in Lucknow and Allahabad is 400. Ratio between candidates appearing for 'PO' exam to 'Clerk' exam in Agra and Lucknow is 5 : 12 and 8 ; 9 respectively.

Let total candidates appeared for 'PO' exam and 'Clerk' exam is 500x and 900x

Number of candidates appearing for 'PO' exam in Allahabad = $\frac{48}{100} \times 500x = 240x$

Remaining candidates appeared for 'PO' exam in Agra and Lucknow together = 500x – 240x = 260x

Let total candidates appeared for 'PO' exam in Agra = y

Then total candidates appeared for 'PO' exam in Lucknow = 1.6y

ATQ,

y + 1.6y = 260x ⇒ y = 100x

total candidates appeared for 'Clerk' exam in Agra = $100x \times \frac{12}{5} = 240x$

total candidates appeared for 'Clerk' exam in Lucknow = $160x \times \frac{9}{8} = 180x$

total candidates appeared for 'Clerk' exam in Allahabad = 900x – 240 – 180x = 480x

EXAM	AGRA	LUCKNOW	ALLAHABAD
PO	100x	160x	240x
CLERK	240x	180x	480x

Now ATQ

$240x - 160x = 400 \Rightarrow x = \frac{400}{80} = 5$

EXAM	AGRA	LUCKNOW	ALLAHABAD
PO	500	800	1200
CLERK	1200	900	2400

Practice Exercise Based on new Pattern

Directions (1-5): Study the given passage carefully and answer the questions.

Rahul, Sandy and Sati invested in ratio 2 : 3 : 4. After 4 months Sandy added Rs. 1500 more in his investment and Rahul withdrew Rs. 800 from his investment. After six months more Sati invested half of the investment done by Rahul in first four months and Sandy invested 50% more than the investment done by Sati in first 10 months. Rahul invested same as investment done by Sandy in first four months. Ratio of profit of Sati to total profit at the end of year is given as 125 : 376.

1. Profit of Sandy is approximately what percent of total profit?
   (a) 64%   (b) 48%   (c) 72%
   (d) 68%   (e) 42%

2. What is the difference between profit share of Rahul and Sandy if total profit is Rs.37,600?
   (a) 12,000   (b) 16,400   (c) 18,500
   (d) 22,900   (e) 20,000

3. Veer have 250% more than initial investment of Sati for a year. Find total interest earned by him if he invested his amount in a scheme which offers 20% p.a. for 2 years?
   (a) Rs. 1400   (b) Rs. 1500   (c) Rs. 1540
   (d) Rs.1600   (e) Rs.1640

4. What is the average of profit share of Sandy and Sati out of total profit of Rs. 37,600?
   (a) 18,220   (b) 18,250   (c) 16,420
   (d) None of these (e) 12,490

5. If initial investment of Bhavya is one-third of initial investment of Rahul, Sandy and Sati together then find the difference between initial investment of Bhavya and Rahul.
   (a) Rs.1000   (b) None of these (c) Rs.750
   (d) Rs.500   (e) Rs.250

Directions (6-10): There are 2000 people live in a village. Out of 2000 people some people are watching '3 idiots' 'Ravan' and 'PK' on Sunday and some are not watching any movie. Number

English
Language

☞ **STUDY TIPS**

Questions based on inference can be of two types, either the inference is given and the aspirant must identify the relevant paragraph or a paragraph is given followed by few probable inferences. Understanding the essence of the paragraph helps to deduce the inference effectively. While reading the paragraph one must observe that it provides the complete information to arrive at the appropriate inference.

Practice Exercise Based on new Pattern

Direction (1-14): In each of the given questions an inference is given in bold which is then followed by three paragraphs. You must find the paragraph(s) from where it is inferred. Choose the option with the best possible outcome as your choice.

1. **Electric vehicles can reduce urban pollution significantly.**

   [I] Addressing vehicular emissions is within our grasp but requires a multi-pronged approach. It needs to combine the already-proposed tighter emission norms (in form of BS VI), with a push for shared mobility and public transport and adoption of alternate mobility technologies. While shared mobility can moderate the demand for individual vehicle ownership and usage, technology solutions today can allow for a sharp reduction in emissions per vehicle. Government policy will impact adoption that will affect both the extent and the future growth of urban pollution.

   [II] The policy roadmap should encompass three key elements based on global learnings. First, incentives for adoption of alternate mobility technologies. Second, restrictions on elements that contribute negatively to strategic objectives (such as congestion charges on polluting technologies), and last provision of enabling infrastructure.

   [III] There is a need to impose restrictions through supply-side regulations on OEMs to increase production of zero emission vehicles to curb urban pollution. Most Western countries adopt enforceable norms that ensure supply of electric vehicles. China has mandated OEMs to produce 10 per cent electric vehicles of their total production. There will, of course, be the need to think about improving the provision of non-polluting public transport. These include electric buses, metros, and shared EV fleets to reduce traffic and usage.

   (a) only (II)
   (b) only (III)
   (c) both (I) and (III)
   (d) all (I), (II) and (III)
   (e) none of these

2. **NHPS's model tender document leaves several questions unanswered.**

   [I] Immediately after the announcement of National Health Protection Scheme (NHPS), questions were raised over the capacity of the country's healthcare system to handle a project of such proportions. There were also apprehensions that private hospitals would milk the NHPS by prescribing unnecessary investigations. The Model Tender Document for The Selection of Implementing Agencies For the NHPS, released by the Union Ministry of Health and Family Welfare, tries to address some of these concerns.

   [II] The model tender document for The Selection of Implementing Agencies For the NHPS, released by the Union Ministry of Health and Family Welfare states that several procedures, including emergency consultation for acute colic, nebulisation for an asthma attack, hypoglycaemia in a diabetic and treatment of "dengue without complication", will be covered by the scheme only if the treatment is availed in a government hospital. Such ailments can indeed be taken care of at a primary health centre (PHC)

   [III] The model tender document states that nearly 47 per cent of the packages under the NHPS, including those related to heart ailments and cancer, require pre-authorisation. In other words, hospitals empanelled under the scheme cannot perform these procedures until they have an authorisation letter from the NHPS's Implementation Support Agency. Such concerns were raised when the scheme was announced. With about two months to go for the NHPC's launch, it is disquieting that the government has not yet managed to address them convincingly.

   (a) only (II)
   (b) only (III)
   (c) both (I) and (III)
   (d) all (I), (II) and (III)
   (e) none of these

27. President Donald Trump accuses the media of being "the opposition party," implying a failure of objectivity. But it's not a bad thing for opinion journalism, including the editorial boards of major newspapers, to see them as the opposition to Trump. Opposition like that keeps democracy alive, and constitutes one of the core responsibilities of a free press.
    (a) A free press is that it expresses a variety of opinions, especially those that differ from the government.
    (b) Democracy needs the press as opposition for informing the public, by presenting another point of view than the president's.
    (c) Opinions are provisional, not objectively provable.
    (d) The justification for a free press doesn't depend on its being objective.
    (e) None of these

28. Kerala is home to 53 large dams with a collective capacity of nearly 7 trillion litres. For dams to truly tame floods, experts say dam reservoirs need to be relatively empty before the onset of rains. According to Himanshu Thakkar, coordinator of the South Asia Network for Dams, Rivers and People, this was not the case in Kerala. The Idukki dam was already near full capacity by July-end even as rains were relatively weak (below normal levels) during that period.
    (a) The damages from the floods could be lowered by relatively emptying the dam reservoirs ahead of monsoon rains.
    (b) Filling up the reservoirs before the end of the monsoon has limited the disaster.
    (c) Unchecked quarrying and construction in ecologically-sensitive areas caused these floods.

    (d) The management is responsible to improve the conditions of dams in Kerala.
    (e) None of these

29. To widen the capital expenditure pie, Indian army must look inward. Given the changing nature of warfare, which is likely to be short and decisive, it also makes strategic sense to require more special operations forces, cyber war capabilities and integrated/joint operational capabilities.
    (a) India army must modify the policies to increase capital expenditure.
    (b) Defence preparedness cannot be compromised.
    (c) There is little leeway for the government to drastically hike defence spending.
    (d) Indian Army should introspect their practices and should adapt to the changing warfare thus resulting enhancement of expenditure pie.
    (e) None of these

30. The crisis in rural areas today is actually one of too much agriculture — in terms of both relative output and employment. What is needed is more manufacturing units, including those that process and add value to agricultural produce.
    (a) Agriculture sector would gain from the processes of specialisation and division of labour
    (b) Farming ceases to be a difficult occupation.
    (c) Crisis of too much agriculture persists in terms of output and employment which can be improved by value adding processes in rural areas.
    (d) An unleashing rural entrepreneurship is needed.
    (e) None of these

Solutions

1. **(b);** Read the paragraphs carefully. Among the given paragraphs, only the (III) paragraph concludes the given inference. It is describing about the production of more electric vehicles for private as well as for public transport, to reduce the increasing pollution. However, paragraph (I) has given emphasis on the adoption of alternate mobility technologies. It has also suggested that shared mobility would further help to reduce pollution. While paragraph (II) is suggesting ways that would help in reducing pollution such as presenting incentives, banning polluting technologies and improving infrastructure. It is to be noted that in paragraph (I) and (II) the alternate technology to reduce pollution has not been mentioned whereas, in paragraph (III) the alternate technology of electric vehicles is mentioned. Thus, option (b) becomes the most viable answer choice.

2. **(c);** After reading the paragraphs carefully, it can be understood that the paragraphs (I) and (III) depict the given inference. Paragraph (I) has mentioned the release of model tender document of NHPS which states its concerns regarding the implementation of the scheme in

such a vast scale. Moreover, it also expresses its agitation towards the private hospitals which may receive undue benefits from the schemes. Paragraph (III) is describing about the issue mentioned in the model tender document of NHPS of the requisite of pre-authorization to perform on heart ailments and cancer from the NHPS's implementation support agency. Since, all three paragraphs mention the questions raised in The Model Tender Document for The Selection of Implementing Agencies For the NHPS, option (c) becomes the most suitable answer choice.

3. **(a);** Among the given paragraphs, paragraph (I) and (II) are deducing the given inference in bold. The inference is stating that the latest alterations made in NCERT books didn't follow the revision process like it used to earlier. Though being an autonomous body, this incident shows the weakness of NCERT. Drawing a hint from the sentence of paragraph (I) "The names that figure on the books as "textbook development committees" remain the same, though most of them have not been involved in the insertion/revision process", the given inference can be

Conjunctions

☞ **STUDY TIPS**

In such questions a conjunction or a connector is provided followed by few sentences. An appropriate combination of sentences using the given conjunction will mold into a single coherent sentence. Understanding the meaning and the usage of the given conjunction will help to connect the sentences logically. Moreover, sentences of similar subject are more likely to connect with each other. Therefore, understanding the possible usages of the conjunctions/ connectors such as BECAUSE, NOTWITHSANDING, DESPITE, ALTHOUGH etc. will help to answer such questions.

Practice Exercise Based on new Pattern

Directions (1-30): In the questions given below few sentences are given which are grammatically correct and meaningful. Connect them by the word given above the statements in the best possible way without changing the intended meaning. Choose your answer accordingly from the options to form a correct, coherent sentence.

1. **ALTHOUGH**
   (I) The report cites research that shows that gender gaps cause an average income loss of 15 percent in the OECD economies, 40 percent of which is due to entrepreneurship gaps.
   (II) The vast majority of the economies monitored have laws establishing non-discrimination in employment based on gender.
   (III) Only 76 mandate equal remuneration for work of equal value and 37 economies have no laws protecting pregnant workers from dismissal.
   (a) only (II)-(III)
   (b) only (III)-(I)
   (c) Both (I)-(III) and (I)-(II)
   (d) only (II)-(I)
   (e) none of these

2. **ASSUMING THAT**
   (I) Although it is risky but many banks use One Time Password (OTP) method for authentication of online payments.
   (II) It is expected that new vulnerabilities in mobile payments shall be discovered.
   (III) Only a phone's owner will see a message sent to it.
   (a) only (II)-(III)   (b) only (I)-(II)
   (c) only (III)-(II)   (d) only (I)-(III)
   (e) none of these

3. **THAN**
   (I) Their work will likely contribute to making the next generation of ultralow-power communications and sensory devices smaller and with greater detection and tuning ranges.

   (II) Researchers are developing atomically thin 'drumheads'-- tens of trillions of times thinner.
   (III) The human eardrum is able to receive and transmit signals across a radio frequency range far greater than what we can hear with the human ear.
   (a) only (II)-(I)   (b) only (II)-(III)
   (c) only (III)-(II)   (d) only (I)-(III)
   (e) none of these

4. **EVEN THOUGH**
   (I) You can email photos to yourself from various computers and download these photos to your iPad.
   (II) You can't easily put photos on an iPad from more than one computer.
   (III) It isn't easy to keep the order of photos when transferring them from PC to iPad Photo.
   (a) only (II)-(I)   (b) only (II)-(III)
   (c) only (III)-(II)   (d) only (I)-(III)
   (e) none of these

5. **SINCE**
   (I) 'Avatar', a James Cameroon movie took the world by storm in 2009.
   (II) With over $1.2 billion collection worldwide, 'Black Panther' is the biggest Non-Sequel blockbuster.
   (III) 'Black Panther' wins the box-office for the 5th straight weekend.
   (a) only (I)-(III)
   (b) only (II)-(I)
   (c) only (III)-(I)
   (d) both (I)-(II) and (II)-(III)
   (e) all of the above

6. **TILL**
   (A) The Supreme Court had earlier this month extended the deadline for linking of various services with Aadhaar.
   (B) Aadhaar number holders can view the details of Aadhaar Authentication they have done.

☞ **STUDY TIPS**

In such questions a phrase/ clause/ idiom is highlighted in the sentence which is followed by few statements that tries to decipher its meaning. A thorough knowledge of phrases and idioms helps to solve such questions. Moreover, it is important to understand the gist and tone of the sentence to appropriately comprehend the sentence. It should be observed that the correct alternative should not alter the context of the given sentence. Sometimes, the theme of the sentence assists to interpret the meaning of the highlighted sentence.

Practice Exercise Based on new Pattern

Direction (1-20): In the following question a part of the sentence is given in bold, it is then followed by three sentences which try to explain the meaning of the phrase given in bold. Choose the best set of alternatives from the five options given below each question which explains the meaning of the phrase correctly without altering the meaning of the given sentence.

1. Since January, **the U.S.'s Countering America's Adversaries through Sanctions Act** against those conducting business with Russia and Iran, as well as its decision to walk out of the Iran nuclear deal have come right up against India's interests.
    (I)   Since January, the efforts of the United States to counter its difficulties by implementing Sanctions Act against the countries who are involved in business with Russia and Iran, along with its decision to leave the Iran nuclear deal have clashed directly with India's interests.
    (II) The United States, since January, is tackling with the difficulties of the America with the help of Sanctions Act against those nations who are having business deals with Russia and Iran, together with its decision to depart from the Iran nuclear deal is coming right up in India's interests.
    (III) Since January, the endeavors of the United States to minimize its problems by having sanctions on the Act against the nations who are involving themselves in business relations with Russia and Iran, as well as its decision to walk out of the Iran deal have come right up against India's interests.
    (a) Only (I) is correct
    (b) Only (III) is correct
    (c) Both (I) and (III) are correct
    (d) Only (II) is correct.
    (e) All are correct

2. Despite the outrage, police brutality towards children and the separation of children from their parents is nothing new in the U.S. Mr. Trump is merely **the most vicious and crude manifestation of it**.
    (I)   Despite the outrage, the cruelty of the police towards children and dissociation of children from their parents have not happened in the past in U.S. Mr. Trump is nothing more than the most ferocious and rude demonstration of the cruelty.
    (II) The brutality of the police towards children and their separation from their parents had always been happening in the past in U.S. because of the outrage of the people and Mr. Trump is solely a cruel and vulgar display of the brutality.
    (III) In spite of the fury, the savagery of the police towards children and the disunion of the children from their parents have happened in past in the U.S. Mr. Trump is purely the most brutal and rude representation of that savagery.
    (a) Only (I) is correct
    (b) Only (II) is correct
    (c) Only (III) is correct.
    (d) Both (II) and (III) are correct
    (e) All are correct

3. Ms. Ocasio-Cortez's win will likely reverberate through the Democratic Party, and possibly put the Republicans on notice as well, for it was built on **an entirely different ethos from the unfettered rein** given to corporate America by the Citizens United decision of the Supreme Court in 2010.
    (I)   The win of Ms. Ocasio-Cortez will probably echo through the Democratic Party, and plausibly send warning among the Republicans as well, because it was constructed on an absolutely different ethics in comparison to the wide-open controls that were given by the Citizens United decision of the Supreme Court in 2010 to the American corporates.

☞ **STUDY TIPS**

In solving a cloze test the first thing an aspirant must do is to get the gist of the passage. Understanding the passage along with the tone of the passage helps eliminate most of the options contextually. Look for the word before blank because it mostly defines the word that will fill the blank. Therefore, the understanding of concepts like verbs, adverbs, nouns etc. and the usage of words accordingly is very necessary.

Practice Exercise Based on new Pattern

Direction (1-5): Given below is a paragraph consisting of blanks. Identify the correct option among the five alternative pairs that should fill the blank against the number to make the paragraph contextually meaningful and grammatically correct.

(This pattern came in IBPS PO MAINS 2017)

The proposal to cut more than 16,500 trees in different parts of Delhi to make way for government complexes represents both ___(1)_____ and hypocrisy. It is shocking that felling of such a large number of trees – many of which are decades old – was even conceived in a place like Delhi which over recent years has become a _____(2)_____gas chamber. Delhiites have to suffer poor air quality throughout the year with the intensity of air pollution increasing during the winter months. In this scenario, cutting down trees is absolutely _____(3)_____-.

These trees are the lungs of Delhi and getting rid of them is a crime against every resident of the city. While government might need space for its functioning and employees, solutions can be found without cutting trees through smart building design. Every tree is precious here and the government's ____(4)_____-that it will plant 10 new saplings for every tree felled simply doesn't **cut ice.** Do the authorities even have an idea how long it takes for a sapling to grow into a full tree that can generate large volumes of oxygen? This is nothing but utter ____(5)_____ for the people of Delhi.

1. (a) Callousness/Insensitiveness
    (b) Apathy/Indifference
    (c) Kindness/Benevolence
    (d) Magnanimity/Cowardice
    (e) annihilation/Negligence

2. (a) veritable/indubitable
    (b) large/humongous
    (c) Petite/ Diminutive
    (d) poisonous/venomous
    (e) huge/colossal

3. (a) Unconscionable/Unethical
    (b) Incumbent/Compelling
    (c) Indispensable/Obligatory
    (d) Irremissible/Profligate

    (e) Requisite/Libertine

4. (a) assertion/pronouncement
    (b) assumption/negation
    (c) Idea/Interpretation
    (d) take/denial
    (e) suggestion/move

5. (a) Disregard/Contempt
    (b) Reverence/Disdain
    (c) Approbation/Insult
    (d) Tribute/Scorn
    (e) Deference/Deterrence

Directions (6-15): In the passage given below there are blanks which are to be filled with the options given below. Find out the appropriate pair of words in each case which can most suitably complete the sentence without altering the meaning of the statement. Both the words of the pair must fill the blank.

Our _____(6)_____ search for the Holy Grail to fix the challenges of governance always leads us nowhere because the thing doesn't exist. But what we find in the process is a ___(7)____, of... well, nothing; it looks like a solution but it is in fact a problem. Good intentions, unless _____(8)_____ by thoughtful deliberation and preparation, do not lead to good policy outcomes.

The move by the Department of Personnel and Training (DoPT) towards lateral entry in government service falls in this category. It has invited applications from "talented and motivated Indian nationals ____(9)_____ to contribute towards nation building" to be appointed as joint secretaries in 10 Departments/ Ministries at the Centre. One cannot question the good intentions behind the decision to make lateral entry more institutionalised than the case till now. Nor should one read too much bad faith into this.

Once we unwrap the new policy, however, what we find is a little _____(10)_____ that can one day grow into a monster. Since the problem that the new policy seeks to fix remains _____(11)_____, we cannot hope for whatever improvements promised. It is also a distant cousin to the 'committed bureaucracy' bogey of the 1970s. Moreover, the

☞ **STUDY TIPS**

In solving a cloze test the first thing an aspirant must do is to get the gist of the passage. Understanding the passage along with the tone of the passage helps eliminate most of the options contextually. Look for the word before blank because it mostly defines the word that will fill the blank. Therefore, the understanding of concepts like verbs, adverbs, nouns etc. and the usage of words accordingly is very necessary.

Practice Exercise Based on new Pattern

Directions (1-5): In the following passage, certain parts of the paragraph are omitted. Choose the most appropriate expression among the five options given against each number which makes the sentence of the paragraph grammatically correct and contextually meaningful.

A Parliamentary panel has recommended the earmarking of a defined portion of proceeds from the divestment of State-owned enterprises for _____ **(1)** _____ proposals of sick public-sector undertakings (PSUs) that have the potential to turn around.

"In this manner, the government can extend a hand-holding support to the select _____**(2)**_____in [the] future," the panel said in a report.

The government had set a target of raising 80,000 crores in 2018-19 by selling stakes in the State-owned firms, with strategic divestment of 24 CPSEs (central public-sector undertakings) on the cards and privatisation of Air India on track.

Besides, NITI Aayog is preparing another list of sick PSUs that can be privatised, its chief executive officer Amitabh Kant said last month. The Prime Minister's Office (PMO) had asked the think-tank to look into the _____**(3)**_____.

The Aayog had already recommended strategic divestment of 40 sick public-sector undertakings.

In its report, the Parliamentary Standing Committee on Industry said it was of the firm opinion that while making a decision to disinvest PSUs, especially those that are profit-making, _____**(4)**_____ to the jobs supported by them, the track record of their contribution to the national economy, their capex (capital expenditure) creation potential and also their role in balancing the social/regional fabric.

The committee observed that timely approval of revival plans of CPSEs with accurate cost estimates, availability of funds with the government and the _____ **(5)**_____ are crucial factors.

1. (a) renovation, decoration and trimming
    (b) finalization, closer and annihilation,
    (c) restructuring, renovation and decoration

(d) optimization, management and convention-alisation
(e) funding revival, restructuring and moder-nisation

2. (a) sick PSUs that have the potential to sell their assets, recover losses and then close their operations
    (b) sick PSUs that can never turn around
    (c) sick PSUs that have the potential to turn around and sustain themselves
    (d) sick PSUs that have the potential to cease to exist
    (e) sick PSUs that cannot face competition from their private sector counterparts

3. (a) viability of sick State-run companies
    (b) lay off criteria in these PSUs
    (c) selection process in these sick State-run companies
    (d) market capitalisation of these PSUs
    (e) joblessness as it is India's most underestimated yet lethal problem

4. (a) the government must not accord due consideration
    (b) the government must keep in mind the requirement of Basel III norms which will be in place in 2019
    (c) the government should focus on the needs of those who provide jobs
    (d) the government must accord due consideration
    (e) the government should listen carefully the proposals of Bank Boards Bureao.

5. (a) delayed disposal of such funds
    (b) timely registration of these PSUs in Share market
    (c) timely completion of projects by these PSUs
    (d) merger of these CPSEs
    (e) timely disposal of such funds

Directions (6-10): In the following passage, certain parts of the paragraph are highlighted which suggest that the given expression may be grammatically or contextually incorrect. Choose the most appropriate expression among the four options given against each number which makes the sentence grammatically correct and contextually meaningful. If the given expression does not require any correction, choose option (e) i.e., "No replacement required" as your answer.

👉 **STUDY TIPS**

A new format of questions has been introduced in which two coloumns are provided in which coloumn (A) mentions the words/phrases that may be incorrect and coloumn (B) mentions the words/phrases that may replace the incorrect words/phrases. The best way to solve such questions is by understanding the tone and the grammatical syntax of the sentence. In this way, it becomes easier to identify any contextual or grammatical error. One should be extra cautious with the words highlighted in the paragraph as they may be incorrectly used either in meaning or in their usage.

Practice Exercise Based on new Pattern

Directions (1-10): In each of the following questions given below, a sentence is given with some bold words which may contain errors. Below each of the sentence, a table is given with two columns in which column 'A' contains the list of bold words, and in column 'B' the suggested corrections are listed. You have to choose the best alternate among the four given options. If no correction is required against the given bold words, mark (e) .i.e. "None of the above" as your answer.

1. Financial planning is the skillful **synthesizer** of art and science. It's a **profession** that requires **emotional** intelligence more than intellectual intelligence. It's all about knowing what makes people tick, finding out their deepest **inspirations** and seeing whether they have a fighting chance of fulfilling those.

	Column A		Column B
1.	synthesizer	**5.**	synthesis
2.	profession	**6.**	possession
3.	emotional	**7.**	emotions
4.	inspirations	**8.**	aspirations

(a) Both (1) - (5) and (4) – (8)
(b) (2) – (6)
(c) (1) – (5)
(d) (3-7)
(e) None of the above

2. Halting **rampant** environmental degradation in the Himalayas is now **emergency**, and it is **possible** only **across** cooperation among all members of the Himalayan basin community, from the lower Mekong River region and China to the countries of southern Asia.

	Column A		Column B
1.	rampant	**5.**	remnant
2.	emergency	**6.**	urgent
3.	possible	**7.**	probable
4.	across	**8.**	through

(a) (4) – (8)
(b) (2) – (6)
(c) (1) – (5), (2) – (6) and (4) – (8)

(d) (2)- (6) and (4) – (8)
(e) None of the above

3. The report of the committee on real sector statistics **advertised** by the National Statistical Commission (NSC) **realized** earlier this month was met with a **swift** response by the ministry of statistics, which is **tasked** with bringing out statistical publications.

	Column A		Column B
1.	advertised	**5.**	constituted
2.	realized	**6.**	released
3.	swift	**7.**	delicate
4.	tasked	**8.**	transferred

(a) (4) – (8)
(b) (2) – (6)
(c) (1) – (5), (2) – (6)
(d) (2) - (6) and (4) – (8)
(e) None of the above

4. Elections in South Asia are **messed up** but Pakistanis have taken to electoral politics with **gusto** and their polity is colourful and **vibrant**. The good thing about these elections in Pakistan has been that the electoral **conquest** was focused on the political economy of Pakistan.

	Column A		Column B
1.	messed up	**5.**	messy
2.	gusto	**6.**	guts
3.	vibrant	**7.**	variance
4.	conquest	**8.**	discourse

(a) Both (1) - (5) and (4) – (8)
(b) (2) – (6)
(c) (1) – (5)
(d) (3-7)
(e) None of the above

Reading Comprehension (Part–I)

This pattern of Reading comprehensions was asked in RECENT EXAMS**.** It is similar to old pattern, but the difference is the kind of question one expects from these reading comprehensions. Inference questions and paragraph connection questions are something which you will find usually in these patterns instead of direct questions.

Tricks: Before reading a student must understand what he/she must look mostly for in the passage. Understanding the theme and authors view point is important as it helps to eliminate most of the option. For reading quickly practice "**TIME BASED READING".** In this method you practice by reading an article in the newspaper within the stipulated time which you set according to yourself.

Practice Exercise Based on new Pattern

Directions (1- 5): Read the following passage carefully and answer the questions given below them.

Paragraph 1: Former Reserve Bank of India (RBI) governor Y.V. Reddy, in a speech last week, said that confidence in the working of public sector banks is at a historic low. The reason for this is not very difficult to discern. PSU banks are grappling with a high level of bad loans, and a number of them have been put under RBI's prompt corrective action and are not in a position to lend. In the March quarter, PSU banks booked losses in excess of Rs 62,000 crore and the total gross non-performing assets (NPAs) stood at about Rs 9 trillion. Although the government is in the process of recapitalising state-run banks, it is likely that the current Rs 2.11 trillion PSU bank recapitalization plan will not be sufficient to put the PSU banks back on track. Since PSU banks own about 70% of banking assets, their inability to lend will have a direct impact on economic growth. Therefore, it is important that the situation is handled with care.

Paragraph 2: As recently reported by Bloomberg, four out of 21 PSU banks have not appointed replacements for chief executive officers (CEOs) and top executives in nine more banks are expected to leave in the coming months. Given this state of affairs, it is possible that new CEOs may not be appointed in time. It is certainly not a desirable situation, especially at a time when banks are stressed and need swift decision making. It is important to have a plan in place for a smooth transition at the top. However, it is also likely that the government will find it difficult to attract talent due to the fear of investigative agencies among bankers. A number of present and former senior executives are under investigation for past transactions. The government must ensure that investigations don't become a witch-hunt, and that the issue is handled with utmost care.

Paragraph 3: The government is now mulling the formation of an asset reconstruction company(ARC) for faster resolution of bad loans and has constituted a committee to make recommendations in this regard. The committee is expected to submit its recommendation in two weeks. While it will be interesting to see the suggestions, in principle, the idea is

unlikely to go very far. The basic problem will be one of valuation of stressed assets. For instance, if they are transferred at par and the resolution is left to a government-owned ARC, it could end up creating more complications in the system. Also, the ARC will need a significant amount of capital, which the government is not in a position to provide. Banks should be able to resolve bad assets under this framework. If the government can actually find resources to reduce stress in the banking system, it would do well to reassess the capital requirement of PSU banks and revisit the capital infusion plan.

Paragraph 4: Apart from capital needs and faster resolution of stress assets, PSU banks need governance reforms—something that has been largely missing so far from the picture. It is correct that the present government has refrained from micromanaging PSU banks, but this in itself will not solve the problem. The government, perhaps, needs to put in place a new framework for governance where, for instance, appointments at higher levels are made in time, and the board is professional and accountable. A situation where banks run without a CEO should never arise. PSU banks should be in a position to attract talent by offering competitive compensation at every level to be able to improve their operation and risk management systems. Only when banks are run by professionals will they be in a position to fund India's growth in the long run and create value for all stakeholders, including the taxpayer.

Paragraph 5: At a broader level, as Reddy noted in his remarks, there should be clarity on the future of PSU banks. In fact, some of the banking reforms will only work if a clear road map is defined. For instance, if the government believes that a few banks should focus on underbanked areas, some fiscal support may be warranted. Perhaps banks should be allowed to focus on specific areas of strength so that they become more efficient over time and are not dependent on budgetary support for growth.

Though the government has entered its last year in office, it still has time to initiate broad reforms and give a fresh direction to PSBs. It will be difficult to sustain higher growth in the medium term without a strong banking system.

👉 **STUDY TIPS**

Before reading a student must understand what he/she must look mostly for in the passage. Understanding the theme and authors view point is important as it helps to eliminate most of the option.

For reading quickly practice "TIME BASED READING". In this method you practice by reading an article in the newspaper within the stipulated time which you set according to yourself.

Practice Exercise Based on New Pattern

Directions (1-10): Read the following passage and answer the following questions accordingly.

In 1859, when Charles Darwin presented his famed theory of evolution by natural selection, inherent in its essence was the abiding notion of survival of the fittest. To evolve, compete and do better has been the cornerstone of the survival of any species. This has also helped ensure that countries and societies have created an era that is prosperous and (largely) peaceful than at any other time in history. Innovation, progressive **disruption** and the effective use of intellectual property are the new tools of the economy this century. For examples, one only has to look at Israel or Singapore. In the 21st century, they are clear leaders on their strengths in the fields of scientific, industrial and financial innovations. Hence the lessons for emerging markets are clear — the need to innovate and compete globally.

India's case has been a success story of sorts. From a country that was hardly acknowledged, to becoming a case study in economic reforms, it has done much to improve the health of the economy and its people. As one of the top growing economies in the world, it now stands at the cusp of leapfrogging from an emerging to a near-advanced economy over the next decade. But going forth, many of the paradigms that have held the Indian economy in good stead may not be efficient in the decades ahead. Equally so, providing access to health care, medical technologies and pharmaceutical products for a billion people is still a challenge, with no clear consensus on the best way forward.

Improving the environment for innovation and enhancing competitiveness, especially in areas such as science and technology and health care, will help **propel** our economic engine of growth and improve the health indices of citizens. In an emerging environment of protectionism and the rise of the anti-globalization movement, the need to innovate and compete will become even more important. Advanced western economies, with low single-digit growth rates, are now resorting to protectionist measures. What is troubling is that matching voices are being heard within emerging economies

like India. The more **prudent** step would be to enhance capabilities to innovate rather than merely adopt as this changing global mood becomes more perverse. The answer lies in creating a knowledge and information technology-based, intellectual property-focused and entrepreneurially-led economy — or a KITE economy as it were.

In the field of health, pharmaceuticals and scientific research, the need to protect the intellectual property of all entities is crucial. We need a multi-fold increase in scientific capabilities and infrastructure as well as a regulatory framework to enhance clinical research. Over the past decade, clinical research, especially clinical trials, has moved away from India to countries like China owing to policy decisions. Reversing this will not only help India to **innovate** and compete with the rest of the world but also create jobs across the value chain. Similarly, taking meaningful steps to be in step with international best practices, remove barriers and enhance predictability in the patents regimes will help grow the innovation paradigm in health access, pharmaceutical developments and medical device manufacturing in India. In order to do this, structural reforms and increased funding of regulatory agencies are a must. India needs to improve competitiveness through a paradigm shift in innovation and intellectual property rights. Its scientists, technology entrepreneurs and health evangelists need to have a protective umbrella of a strong patent regime that helps them innovate without having to look over their shoulders. Steps to make India a KITE leader in health are the need of the hour. So, while the government attempts more structural reforms, it would do well to ensure that the overall competitiveness of the health sector improves as it **embarks** on an ambitious mission to provide quality health care to more than a billion citizens.

1. Why do the emerging markets need to innovate and compete globally?
   (a) For providing a multifold increase in scientific capabilities.
   (b) To provide reforms and global funds to individual investors.

CLICK HERE TO BUY BOOK

👉 STUDY TIPS

In such questions gew sentences are provided followed by three probable starters that may be used to form a single coherent sentence using both the statements without altering the context of the sentences. The best way to solve such questions is by understanding the relation between both the sentences such as whether they are stating cause and effect or both are effects or causes. Once the relation is derived one must choose the grammatically correct starter to frame the sentence as their answer choice. It should be kept in mind that the context of the sentences is not amended.

Practice Exercise Based on New Pattern

Direction (1-30): Select the phrase/connector (STARTERS) from the given three options which can be used to form a single sentence from the two sentences given below, implying the same meaning as expressed in the statement sentences.

1. (I) The new timed finishing feature will undoubtedly be the biggest adjustment in playing FIFA.
   (II) It gives the option to shoot/head the ball better by utilising a double tap of circle in order to generate more power, swerve and accuracy.
   (i) The new timed finishing feature gives the…
   (ii) The option to shoot/head…
   (iii) The biggest adjustment…
   (a) Only (II)   (b) Both (I) and (III)
   (c) only (III)   (d) All (I), (II) and (III)
   (e) None of these

2. (I) Medical student Josh Guild realized that infections continue to remain problematic following surgery in the developing world.
   (II) Nurses receive little training to prevent the infections post-surgery.
   (i) The reason that infections continue…
   (ii) Since nurses receive little training…
   (iii) Due to the little training…
   (a) Only (II)   (b) Both (I) and (III)
   (c) only (III)   (d) All (I), (II) and (III)
   (e) None of these

3. (I) While there is scope to improve the FRL's operational aspects,
   (II) More substantive changes to the framework should be approached as part of a comprehensive plan.
   (i) Realizing that while there…
   (ii) In the view of the fact that there is…
   (iii) In the knowledge of scope…
   (a) Both (I) and (II)   (b) Both (I) and (III)
   (c) only (III)   (d) All (I), (II) and (III)
   (e) None of these

4. (I) CBSE schools have decided to cut short the Onam holidays to compensate for the working days lost due to heavy rain.
   (II) The Kerala State Commission for Protection of Child Rights has criticized CBSE schools for their decision.
   (i) Reviewing the decision of…
   (ii) Owing to heavy rain, the decision of…
   (iii) The decision of CBSE schools…
   (a) Both (I) and (II)   (b) Only (iii)
   (c) Both (II) and (III) (d) All (I), (II) and (III)
   (e) None of these

5. (I) A lot of contestants in every season, even the most memorable ones can end up getting buried within the large franchise.
   (II) A lot of contestants have done what they can to cement their place in Bachelor Nation history.
   (i) Nonetheless, a lot of contestants have done…
   (ii) In contempt of a lot of contestants in every….
   (iii) Even though a lot of contestants have…
   (a) Both (I) and (III)
   (b) Only (iii)
   (c) Both (II) and (III)
   (d) All (I), (II) and (III)
   (e) None of these

6. (I) The surface of our planet appears to be firm and stationary.
   (II) There is convincing evidence that the materials that form the solid rock on the surface of the earth are moving.
   (i) Even though the surface of our planet…
   (ii) However, the evidence is convincing…
   (iii) Notwithstanding that the surface…
   (a) only (i)
   (b) only (ii)
   (c) both (i) and (iii)
   (d) both (ii) and (iii)
   (e) none of these

Coherent Paragraphs

☞ **STUDY TIPS**

In coherent paragraphs, a passage is split into sentences along with a sentence which was not the part of the passage originally. We have to figure out the sentence which is not conforming to the theme of the passage. The understanding of the subject and a particular view point regarding it is must because the same tone is generally used in a passage. For example, if a passage talks about the adversities of the farmer and one of the sentence is describing the boom in the agricultural sector then that sentence would be the odd one out.

Practice Exercise Based on New Pattern

Directions (1-30): In the following questions few sentences are provided. Identify and mark the sentence which may fail to become the part of the paragraph coherently. In questions where "none of these" is an option and all the sentences are meaningful and logical with the context of the paragraph mark (e) i.e., "none of these" as your answer choice.

1. (a) Man has always pondered on nature and made endeavours to learn from its principles.
   (b) Blockchain has the potential to disrupt nearly every industry, starting from financial institutions to manufacturing, education and power.
   (c) Aeroplanes were inspired by birds, bullet trains by the kingfisher, sonar by dolphins, and robots were designed to mimic humans themselves.
   (d) One such example that has been inspired by microbes and is proving to be a solution for numerous problems is the distributed ledger technology (DLT), popularly known as blockchain
   (e) We often tend to look up to nature to find solutions for simple yet complex problems.

2. (a) Economies with a developed agrarian structure, such as the US and China, have recently established private extension services for farmers who produce on a commercially-viable and enduring scale.
   (b) Although agriculture contributes only around 17% to the country's GDP, nearly half of India's labour force (47%) works in the agrarian sector.
   (c) And amongst those living in rural areas, nearly 69% of the workforce operates in the agricultural sector (according to Census 2011).
   (d) With a predominantly rural backbone of the agrarian economy, efforts to improve agricultural labour productivity are needed to raise the living conditions of the majority of the population.
   (e) A working paper by ICRIER demonstrates this specific requirement, and analyses the importance of agricultural research and education, along with extension and training.

3. (a) Petrol prices in India have two components, one is due to global crude oil prices, and one is due to taxes by the Indian government.
   (b) Such sharp increases in fuel prices choke economic growth, stoke inflation, hurt consumers and domestic budgets.
   (c) Retail prices of petrol and diesel were increased for the ninth straight day, pushing them to record levels despite international crude price being nowhere near the level it was four years ago.
   (d) In Delhi, retail petrol and diesel prices were Rs 76.87 a litre and Rs 68.08 a litre respectively.
   (e) none of these

4. (a) Traditional social norms have conditioned social conduct for generations and these are coded into the mundane minutiae of language and everyday practice.
   (b) State patronage of violation of laws and democratic norms is at the core of impunity.
   (c) The promise of democracy is to eradicate such social norms hierarchies and offer equality of opportunity, if not of outcomes.
   (d) Traditional social norms in the country have been hierarchical and those at the bottom rungs got a raw deal.
   (e) None of these

5. (a) When the desire for a job is fulfilled, it is replaced by the desire for a promotion.
   (b) If your bank balance is in lakhs, the next desire will be for it to be in crores.
   (c) That which can never be satiated is a desire. When a desire gets fulfilled – it gives birth to many more desires.
   (d) When the desire for a house is fulfilled, you will want a bigger house, better furniture, even a bigger car.
   (e) None of these

6. (a) Rivers have been the lifeline of all civilisations; no wonder they are considered sacred across cultures.
   (b) When a seeker can honour the sanctity of the environment, then he can experience the same sanctity in his own mind.
   (c) Sanskrit has a beautiful word for water, apa and the word aptha means 'that which is born out of water'.

👉 **STUDY TIPS**

Error correction is the most important part of banking English. There are lot of changes in the pattern, but this is not something we should be concerned about as the good understanding of the key concepts is the only requirement we need to solve these questions. Aspirants are advised to get a good grip on the topics like adverbs, articles, noun and numbers, verbs, tenses etc. Some of the changes you can expect is that you can be asked to find the correct part instead of an incorrect one.

Practice Exercise Based on new Pattern

Direction (1-5): The following questions consist of a sentence which is divided into three parts which contain grammatical errors in one or more than one part of the sentence. If there is an error in any part(s) of the sentence, find the correct alternative(s) to replace that part(s) from the three options given below each question to make the sentence grammatically correct. If the given sentence is grammatically correct or does not require any correction, choose (e) i.e. no error as your answer.

1. One of the most significant governance reform (I)/ undertaken by the government in recent years (II)/ had been the Direct Benefits Transfer (DBT) initiative. (III)
   (I) One of the most significant governance reforms
   (II) undertaken by the government in recent years
   (III) has been the Direct Benefits Transfer (DBT) initiative
   (a) only (I)
   (b) only (II)
   (c) only (III)
   (d) Both (I) and (III)
   (e) no error

2. The money she earned from each of the trips (I)/ across the desert were devoted entirely to paying off the loan, but the money she earned working (II)/ at the bank was set aside to purchase supplies until the ranch started paying for itself. (III)
   (I) The money she earned from each of the trips
   (II) across the desert was devoted entirely to paying off the loan, but the money she earned working
   (III) at the bank was set aside to purchase supplies until the ranch started paying for itself
   (a) only (I)
   (b) only (II)
   (c) only (III)
   (d) Both (II) and (III)
   (e) no error

3. Once this ball gets rolling, it will speed up and, (I)/ because of it, we will all wake up each morning (II)/ with a few extra spring in our step and sparkle in our eye. (III)
   (I) Once this ball gets rolling, it will speed up and
   (II) because of it, we will all wake up each morning

   (III) with a little extra spring in our step and sparkle in our eye
   (a) only (I)
   (b) Both (II) and (III)
   (c) only (III)
   (d) only (II)
   (e) no error

4. They learned that Chilon was the very quiet man, (I)/ that he never spoke to himself, and that he spent all his time in trying (II)/ to make his country great, strong and happy. (III)
   (I) They learned that Chilon was a very quiet man,
   (II) that he never spoke about himself, and that he spent all his time in trying
   (III) to make his country great, strong and happy
   (a) only (I)
   (b) Both (II) and (III)
   (c) only (III)
   (d) Both (I) and (II)
   (e) no error

5. Air India, which was offered (I)/ along with $5 billion of its debt, is surviving (II)/ on taxpayer bailouts after losing money for years. (III)
   (I) Air India, who were offered
   (II) along with $5 billion of the debt, is surviving
   (III) on taxpayer's bailouts after losing money for years
   (a) only (I)
   (b) Both (II) and (III)
   (c) only (III)
   (d) Both (I) and (II)
   (e) no error

Directions (6-10): There are four sentences given in the following question. Find the sentence(s) which is/are grammatically correct and mark your answer choosing the best possible alternative among the five given below each question. If all the sentences are correct, choose (e) as your answer.

6. (I) The involvement of the teaching community is both imperative and effective in limiting the progress of elementary mental health issues into serious psychological hazards.

☞ **STUDY TIP & TRICKS**

Try to find sentence which introduces a topic or person or idea so as to find an opening sentence. Make mandatory pairs. Mandatory pairs are sentences which will necessarily come together. Try to find the time sequences: in general, if a given set of statements contains reference to time based events, make sure maintain a particular order that is past-present-future or vice-versa. Try to find the transition words such as: as also, as well as, besides, furthermore, in addition, likewise, moreover, similarly, consequently, hence, for one thing, above all, aside from, besides, in other words, instead, likewise, on one hand, on the other hand, rather, meanwhile, next, then, soon, in conclusion, after all, all in all, and then try to sum up.

Practice Exercise Based on new Pattern

Direction (1-20): There are sets of statements in question given below which when connected using the correct sentence structure forms a complete single sentence without altering the meaning of the sentences given in the question. There are four options given below the question, choose the sentence that forms the correct formation of single sentence which is both grammatically correct and contextually meaningful. If none follows, choose (e) as your answer.

1. Their strategic relationship, upgraded to a major defense partnership only recently; failed to make progress on signing foundational agreements; the two governments have failed; the failure in turn has held up talks on defense procurement and technology transfers
   (a) Because of their strategic relationship, upgraded to a major defense partnership only recently but failed to make progress on signing foundational agreements, so, the two governments have failed but that failure in turn has held up talks on defense procurement and technology transfers.
   (b) Despite their strategic relationship, upgraded to a major defense partnership only recently, the two governments have failed to make progress on signing foundational agreements, which in turn have held up talks on defense procurement and technology transfers.
   (c) On their strategic relationship, upgraded to a major defense partnership only recently, the two governments have failed to make progress on signing foundational agreements, which in turn has held up talks on defense procurement and technology transfers.
   (d) With their strategic relationship, upgraded to a major defense partnership only recently and failed to make progress on signing foundational agreements, but the failure in turn has held up talks on defense procurement and technology transfers, hence the two governments have failed.
   (e) None of the above is correct.

2. The rise in global trade tensions; the ongoing trade war could be another factor; the rout in emerging market currencies; its impact on the rupee remains unclear as of now
   (a) Due to the rise in global trade tensions, the ongoing war trade war could be another factor because its impact on the rupee remains unclear as of now against the rout in emerging market currencies.
   (b) As the rise in global trade tensions between the ongoing trade war could be another factor against the rout in emerges market currencies, but its impact on the rupee remains unclear as of now.
   (c) For the rise in global trade tensions among the ongoing trade war could be another factor behind the rout in emerging market currencies, but its impact on the rupee remain unclear as of now.
   (d) The rise in global trade tensions amidst the ongoing trade war could be another factor behind the rout in emerging market currencies, but its impact on the rupee remains unclear as of now.
   (e) None of the above is correct.

3. School authorities in several districts routinely summon police officers; handcuff and arrest children as young as six and seven years old; assaulting teachers, damaging school property; even for simply throwing a tantrum
   (a) School authorities in several districts routinely summon police officers by handcuff and arrest children as young as six and seven years old in spite of assaulting teachers, damaging school property, as well as, even for simply throwing a tantrum.
   (b) School authorities in several districts routinely summon police officers to handcuff and arrest children as young as six and seven years old for assaulting teachers, damaging school property, or even for simply throwing a tantrum.

👉 **STUDY TIPS**

In such questions, a paragraph with jumbled sentences is provided. The best way to solve this question is to understand the tone and the context of the sentences. In addition to that the knowledge of pronouns, determiners and relative pronouns also helps to pair the coherent sentences. Words like also, moreover, meanwhile, in addition to, however, indicates that these sentences cannot introduce a paragraph. Pronouns like he, she, it they should be follow the statements that include their antecedents. It is comparatively easier to pair sentences and then arrange them in the logical sequence.

Practice Exercise Based on new Pattern

Direction (1-6): Rearrange the following sentences to form a meaningful paragraph and then answer the questions that follow.

1. If sentence (B) "Grain prices in India are dominated by the state, being set by CACP reports, and with a major share of public purchase at least in Northwest India and UP, the private trade dare not speculate." is the first sentence of the paragraph, then what is the sequence of other sentences after rearrangement?
   (A) This is also true for vegetables and fruits and for fish and forest products. Marketing here is a big constraint.
   (B) Grain prices in India are dominated by the state, being set by CACP reports, and with a major share of public purchase at least in Northwest India and UP, the private trade dare not speculate.
   (C) The income elasticity of demand for animal husbandry products like milk, cheese as also meat, chicken and eggs being in the range of 1.5-2, demand rises by 10% or more with per-capita income rising by 6%.
   (D) But within grain, the problem was in pulses, and to an extent in some inferior cereals like corn and bajra, also used as fodder. It is the non-grain prices which are the problem.
   (E) More than 40 lakh farmers moved to census towns, chasing the demand for such products in the last decade, and one can be sure that the number is more in this decade.
   (F) APMCs are in any case strangled by the brokers as a number of studies show. The supply chain is ruptured at a crucial point.
   (G) These products are sold outside Agricultural Produce Market Committees (APMC) and the infrastructure support to the kisan is abysmal, as all field reports show.
   (a) DCAEGF   (b) ACDEFG   (c) DCFGEA
   (d) DEGAFC   (e) DGECAF

2. If sentence (B), "Maharashtra also wants 5% of the seats in coaching centres reserved for BPL students. Class-sizes are also to be capped, and each centre will be subject to grading based on performance-based audits every three years." is the last sentence of the paragraph, then which of the following sentences does not fit into the paragraph formed after rearranging other sentences?
   (A) It requires coaching centres to get a government licence and seek a renewal every three year, while home tutors must get their licences renewed every five years.
   (B) Maharashtra also wants 5% of the seats in coaching centres reserved for BPL students. Class-sizes are also to be capped, and each centre will be subject to grading based on performance-based audits every three years.
   (C) The Maharashtra government's proposal to regulate private coaching centres and home tuition providers not only is unwarranted, but also sets a dangerous precedent.
   (D) Only the schools that have more seats in standard are compared to their pre-primary section, will have to fill the remaining quota seats.
   (E) The state had also proposed making government approval of fees charged mandatory, with the government having the authority to reduce these.
   (F) Surprisingly, even though the right to legal redress is a fundamental right, the proposed regulation prescribes a ban on coaching centres from approaching the high court and the Supreme Court, reposing the final say with an appeals committee formed by the government.
   (a) A   (b) C   (c) E
   (d) D   (e) E

3. If Sentence (C), "Petrol and diesel prices have crept up slowly over the last three months, but without inviting the kind of anger and criticism usually directed at such fuel price hikes." is the first sentence, what is the order of other sentences after rearrangement?
   (A) Daily pricing is now being seen by many as a ploy to increase prices while allowing the government to escape any political backlash.

👉 **STUDY TIPS**

For solving fillers an aspirant must start building his/her vocabulary. Also, a sentence will give an idea or hint about the word that must be filled. Sometimes grammar helps in eliminating few options. Therefore, look for the tense, singular and plural nouns etc. In fillers also, the word before the blank helps in finding the correct word. Therefore, understanding of the usage of the word in different aspects is very important.

Practice Exercise Based on new Pattern

Direction (1-10): In question given below there are two statements, each statement consists of two blanks. You have to choose the option which provides the correct set of words that fits both the blanks in both the statements appropriately and in the same order making them meaningful and grammatically correct.

1. (1) Confidence was increasing that men, through _____ and effective action, could _____ their existence and even prolong their lives.
   (2) Others, perhaps with greater _____, wanted the struggle to continue in order to _____ the conditions of the peasants in the countryside.
   (a) prodigal, fortify
   (b) discrimination, vitiate
   (c) improvidence, remediate
   (d) foresight, ameliorate
   (e) shortsightedness, blemish

2. (1) A shopkeeper with red pimples on his cheeks near the nose, and a calm, _____, calculating expression on his plump face, hurriedly and _____ approached the officer, swinging his arms.
   (II) The party has been _____ with its representatives and today some of them have become _____ rich and some even preach a gospel of wealth.
   (a) relentless, modestly
   (b) persistent, ostentatiously
   (c) faltering, calmly
   (d) vacillating, plainly
   (e) hesitant, moderately

3. (I) The legal system currently punishes the most _____ forms of child abuse and neglect, but such crimes are _____ to prove.
   (II) Demonetization was the most _____ step taken by Modi government and it made the life of common people _____ for next few months.

(a) modest, brutal
(b) concealed, facile
(c) unobtrusive, comfortable
(d) inconspicuous, superficial
(e) egregious, arduous

4. (I) His plans, probably not very definite, were disturbed by an _____ message from the queen, ordering him not to return to England without her _____.
   (II) The events which were taking place in Europe made it _____ to send home a part of the army of Africa, and Medea gave his _____ for the same.
   (a) dispensable, revocation
   (b) unimportant, injunction
   (c) imperative, consent
   (d) discretionary, deterrence
   (e) inconsequential, embargo

5. (I) The _____ modern being is a bit like Howard Roark, who in Ayn Rand's The Fountainhead sits atop a metaphorical mountain _____ to view life from a distance.
   (II) For the subordinates, the _____ managerial role was to create a supportive environment within which they could prosper professionally without being _____ by anyone.
   (a) quintessential, condemned
   (b) substandard, endorsed
   (c) atrocious, eulogized
   (d) ordinary, consecrated
   (e) mediocre, venerated

6. [I] The question that had_____ Pierre on the Mozhaysk hill and all that day now seemed to him quite clear and completely _____.
   [II] For the ancients these _____ questions were _____ by a belief in the direct participation of the Deity in human affairs.
   (a) flustered, vague   (b) answered, tangled
   (c) baffled, unsettled   (d) perturbed, solved
   (e) procrastinated, mystery

Vocabulary

Practice Exercise Based on new Pattern

Directions (1-4): In each of the following questions five options are given, of which one word is most nearly the same or opposite in meaning to the given word in the question. Find the correct option having either same or opposite meaning.

1. REPERCUSSION
(a) Reliant
(b) Consequence
(c) Impertinence
(d) Prompting
(e) Callous

2. MASQUERADE
(a) Contentious
(b) Pretense
(c) Belligerent
(d) Arrogant
(e) Reminiscent

3. Wither
(a) Ingenious
(b) Gnawed
(c) Persistent
(d) Thrive
(e) Reverie

4. REPROBATE
(a) Repudiate
(b) Strident
(c) Virtuous
(d) Flagrant
(e) Stoic

Directions (5 – 9): In the following questions, four words are given, choose the most suitable alternative reflecting the combination of the words which are either synonyms or antonyms of each other. If no such pair is formed, mark option (e) i.e., "none of these" as your answer choice.

5. (i) conclusion
(ii) paradox
(iii) discrepancy
(iv) pragmatic
(a) only (i) – (iv)
(b) only (i) – (iii)
(c) only (ii) – (iii)
(d) only (i) – (ii)
(e) none of these

6. (i) declaration
(ii) modicum
(iii) laxity
(iv) surveillance
(a) only (iii) – (iv)
(b) only (i) – (iii)
(c) only (ii) – (iii)
(d) only (i) – (ii)
(e) none of these

7. (i) historical
(ii) tussle
(iii) cumbrous
(iv) combat
(a) only (iii) – (iv)
(b) only (i) – (iii)
(c) only (ii) – (iv)
(d) only (i) – (ii)
(e) none of these

8. (i) prudent
(ii) crucial
(iii) fluid
(iv) reckless
(a) only (ii) – (iii)
(b) only (i) – (iii)

(c) only (ii) – (iv)
(d) only (i) – (iv)
(e) none of these

9. (i) itinerant
(ii) nomads
(iii) eradication
(iv) penchant
(a) only (i) – (ii)
(b) only (ii) – (iii)
(c) only (ii) – (iv)
(d) only (i) – (iv)
(e) none of these

Directions (10-11): In the following questions, five words are given, choose the most suitable alternative reflecting the combination of **word(s) similar** in meaning with each other.

10. (I) Guise
(II) Staple
(III) Wean
(IV) Affliction
(V) Torment
(a) I and II
(b) II and III
(c) III and IV
(d) IV and V
(e) I, III and IV

11. (I) Abstention
(II) Reverence
(III) Travesty
(IV) Veneration
(V) homage
(a) I and II
(b) II and III
(c) II, IV and V
(d) I, II and V
(e) I, III and IV

Directions (12-16): Choose the word/group of words which is most SIMILAR in meaning to the word/group of words printed in bold as used in passage.

12. Impromptu
(a) extempore
(b) enticing
(c) rapturous
(d) entralling
(e) enamouring

13. Peculiar
(a) intuitive
(b) winsome
(c) queer
(d) imperious
(e) inciting

14. Dire
(a) devour
(b) revoke
(c) unprecedent
(d) appalling
(e) extraneous

15. Tapering off
(a) tenable
(b) Abate
(c) ameliorate
(d) repudiate
(e) inundate

16. Inevitable
(a) testimony
(b) allude
(c) inexorable
(d) fester
(e) eerie

28. Which one of the following statements if true, can be said to best provide **supporting** evidence for the surmise mentioned in the passage?

An engineering degree is valuable, but the sense of empathy that comes from music, arts, literature, and psychology provides a big advantage in design. A history major who has studied the Enlightenment or the rise and fall of the Roman Empire gains an insight into the human elements of technology and the importance of its usability. A psychologist is more likely to know how to motivate people and to understand what users want than is an engineer who has worked only in the technology trenches. A musician or artist is king in a world in which you can 3D-print anything that you can imagine.

(a) Tackling today's biggest social and technological challenges requires the ability to think critically.

(b) 37% have degrees in engineering or computer technology, and two percent in mathematics.

(c) Indian parents dread the thought of their children becoming musicians or artists

(d) To create the amazing future that technology is enabling, India needs it musicians and artists working hand in hand with its engineers.

(e) none of these

Directions (29-30): The following questions are based on the passage given below:

The shortage of faculties in IIMs is rooted in the fact that both existing faculty members and young PhDs who could have been potential recruits are now increasingly preferring high-paying corporate jobs over teaching jobs at the IIMs. As per the ET report, many IIM officials seem to think that the IIM Act that was implemented this January would help solve the problem because it empowers the IIMs to recruit freely and decide on teachers' salaries; they believe the provision will let IIMs offer competitive salaries. But with the government planning to regulate IIM fees, and ironically in the present context, push IIMs to increase intake, _____. To deal with its faculty crunch, the IIMs must look Westwards—apart from competitive salaries, top US research universities offer many incentives for research that keeps ace teaching talent from looking for greener pastures. Even at the public-school level, teachers are rewarded generously for performance, which in turn, causes lesser attrition.

29. Select the appropriate statement to fill the above blank in the passage.

(a) where all the 20 IIMs can get top quality faculty.

(b) the hope that the IIM Act will be empowering could be misplaced.

(c) to select their faculty as well as curriculum.

(d) will be subject to overt control by the Ministry of Human Resource Development.

(e) none of these

30. Which among the following options would most strongly support the author's concern about IIMs?

(a) Attracting good students to attract high caliber faculties is a chicken-egg problem.

(b) High-quality faculty, in turn, insists on and attracts high-quality staff and students.

(c) IIM officials believe the new IIM Act will offer greater freedom to B-schools to attract and retain faculty.

(d) because of IIMs increasing seats and classes, IIMs may need a Lesson in Managing Faculty Crunch

(e) none of these

Solutions

1. (d); Among the given options, sentence (b) is grammatically (due to the usage of controls) and contextually incorrect. Sentences (a) and (c) are contextually different and structurally incorrect. They are not inferring the same meaning as per the demand of the question. Hence only option (d) forms the correct sentence which follows the sentences given in the question both grammatically and contextually.

2. (c); Among the given options, sentences (a) and (b) are grammatically and contextually incorrect.
In (a) mastered should be used but it is not the only error as the sentence structure is incorrect.
In (b) 'made' should be used in place of 'make'
Sentence (d) is contextually different and structurally incorrect. It is not inferring the same meaning as per the demand of the question. Hence only option (c) forms the correct sentence which follows the sentences given in the question both grammatically and contextually.

3. (b); Among the given options, sentence (d) is grammatically and contextually incorrect. Sentences (a) and (c) are contextually different and structurally incorrect. They are not inferring the same meaning as per the demand of the question. Hence only option (b) forms the correct sentence which follows the sentences given in the question both grammatically and contextually.

4. (d); Among the given options, sentence (c) is grammatically and contextually incorrect. Sentences (a) and (b) are contextually different and structurally incorrect. They are not inferring the same meaning as per the demand of the question. Option (c) is incorrect as 'retired' should be used in place of 'retires' Hence only option (d) forms the correct sentence which follows the sentences given in the question both grammatically and contextually.

5. (a); Among the given options, sentence (c) is grammatically and contextually incorrect. Sentences (b) and (d) are contextually different and structurally incorrect. They are not inferring the same meaning as per the demand of the question. Hence only option (a) forms the correct

Practice Exercise Based on new Pattern

Directions (1-5): In each question, the word is given in bold and is then used in four different ways, numbered (a) to (d). Choose the option in which the usage of the word is INCORRECT or INAPPROPRIATE. If it is used correctly in each of the sentence then choose option (e) as your choice.

1. **TUMBLE**
   (a) Buildings lost windows and walls **tumbled** as the sonic wave from the explosion reverberated through the region, reportedly injuring 1,000 people.
   (b) Tesla's second-quarter loss and the departure of another senior executive sent shares **tumbling** as much as 15% on Thursday.
   (c) The FlasKap 5.0 is a kind of lid that can be added to most **tumbles**, and can be used simply for filling the mixer with in the tumble with the juice.
   (d) Indian benchmark indices **tumbled** more than 1% on Monday as adverse local and global factors—including the scrapping of the special status of Jammu and Kashmir—left investors on edge.
   (e) All are correct.

2. **CREDIBLE**
   (a) Two federal judges have found **credible** testimony of multiple witnesses that Hamid could not have committed the crimes of which he was accused.
   (b) Even though there was very little evidence, the **credible** jury decided the defendant was guilty.
   (c) Governor Malik informed the delegation that there were serious and **credible** inputs which were available to the security agencies regarding terrorist attacks on the Amarnath Yatra.
   (d) A delegation of councilors is lobbying the Government because they say the noise is **credible**.
   (e) All are correct.

3. **IMPLAUSIBLE**
   (a) She's been making **implausible** claims over the thesis that she documented.
   (b) The drug manufacturer was fined for making **implausible** claims about its weight loss products.
   (c) The warden found it **implausible** that a prisoner could have escaped from his secure prison without assistance.
   (d) Since Central High is behind by forty points, it is **implausible** that they will come back and win the game**.**
   (e) All are correct.

4. **EXTREMELY**
   (a) The people just **extremely** moved when the rain started to shower on the rally.
   (b) Dinner at the fancy restaurant was **extremely** expensive, and the 300 dollar tab shocked the dinner guests once placed on their table.
   (c) Because she is **extremely** afraid of dogs, the toddler screams and shakes at even the sight of a canine.
   (d) Angelina was **extremely** proud of her Italian heritage.
   (e) All are correct.

5. **ADAMANT**
   (a) She was **adamant** that people should know what they are consuming; hence she posted the news on the social media.
   (b) He was equally **adamant** that time was of the very essence and one should be focused all the time.
   (c) You were quite **adamant** earlier that you hadn't touched her and I really admired that.
   (d) The poet was fickle minded and was **adamant** in each of his poem.
   (e) All are correct.

Directions (6-13): In the following questions a word is given. Following it are three sentences. From the given sentences you have to find the sentence in which the highlighted word is correctly used and mark it as your answer.

6. **Deepen**
   (I) Age had **deepen** the lines in his face.
   (II) The water **deepen** toward the center of the river.
   (III) Students explore new ideas as they **deepen** their understanding of the subject.
   (a) (I)   (b) (III)   (c) Both (I) and (II)
   (d) Both (II) and (III)   (e) All of these

7. **Situate**
   (I) The town possesses a literary and scientific **situate** .
   (II) They decided to **situate** the new office building near the airport.
   (III) The house is in a wonderful **situate** overlooking the valley.
   (a) (II)   (b) (III)   (c) Both (I) and (II)
   (d) Both (II) and (III)   (e) All of these

8. **Culminate**
   (I) We failed to **culminate** students with love of knowledge.
   (II) The series of topics will **culminate** in an exhibition later in the year.

491. Which of the leading public sector bank in the country has launched its flagship business mentoring program for MSME entrepreneurs 'MSME Prerana' in the state of Rajasthan?
(a) Bank of Maharashtra   (b) Indian Bank
(c) Canara Bank   (d) State Bank of India
(e) Punjab National Bank

492. Which insurance company has announced the launch of its unique health insurance rider 'Respect Senior Care Rider' to protect customers from shelling out significant sums of cash and reduces worries?
(a) Reliance General   (b) New India Assurance
(c) HDFC ERGO   (d) SBI General Insurance
(e) Bajaj Allianz General Insurance

493. To enhance the insurance force in India, the Insurance Regulatory and Development Authority of India (IRDAI) will soon introduce _____ in each gram panchayat.
(a) Bima Vahaks   (b) Bima Mitra
(c) Bima Agents   (d) Gram Mitra
(e) Gram Vahaks

494. Where the cultural extravaganza titled 'Bekal International Beach Festival' which is the 10-day first international beach festival was celebrated?
(a) Andhra Pradesh   (b) West Bengal
(c) Goa   (d) Kerala
(e) Tamil Nadu

495. Which of the following international agency ranked Indian-PSU company WAPCOS as top amongst consulting services firms in water and other infrastructure sectors, with the highest sanctioned financed amount?
(a) World Bank
(b) United Nations
(c) Asian Development Bank
(d) World Trade Organization
(e) International Monetary Fund

496. Identify correct Product of the NPCI from the Information given below-
This program is aimed at meeting the electronic tolling requirements of the Indian market. It offers an interoperable nationwide toll payment solution.

(a) CTS   (b) BHIM
(c) NACH   (d) NETC
(e) UPI

497. Which of the following statement(s) is/are correct about a Nostro account?
(i) It is an account held by a bank of one country in a bank in another country.
(ii) It allows the customers to deposit money in the bank's account in another bank. It is often used if a bank has no branches in a foreign country.
(iii) The interest rate is not given to this type of account.
(a) Only (i)   (b) Only (iii)
(c) Both (i) & (ii)   (d) Both (ii) & (iii)
(e) All (i), (ii) & (iii)

498. OTC Markets refers to markets where transactions are undertaken in any manner other than on exchanges and shall include those executed on electronic trading platforms (ETPs). Expand the term "C" in OTC-
(a) Cost   (b) Capital
(c) Central   (d) Counter
(e) Cash

499. Central Water Commission and which of the following IIT have signed an MOU for establishing an international Centre of Excellence on dam safety?
(a) IIT-Bombay   (b) IIT-Roorkee
(c) IIT-Delhi   (d) IIT-Ropar
(e) IIT-Kharagpur

500. The Pradhan Mantri Kisan Samman Nidhi Yojana (PM-KISAN) completed 4 years on 24 February 2023. Identify Correct statement regarding PM-KISAN Yojana-
(i) It is a Central Sector Scheme with 100% funding from the Government of India.
(ii) It is being implemented by the Ministry of Agriculture and Farmers Welfare.
(iii) Financial benefit of Rs 6000/- per year in three equal installments, every four months is transferred into the bank accounts of farmers' families across the country through Direct Benefit Transfer (DBT) mode.
(a) Only (i)   (b) Only (ii)
(c) Only (iii)   (d) Both (i) & (ii)
(e) All (i), (ii) & (iii)

SOLUTIONS

1. (d): Basic Banking activity is NOT an indicator to assess domestic systemic importance of the banks.
Important Details-
The methodology to be used to assess the systemic importance is largely based on the indicator based approach being used by BCBS to identify G-SIBs. The indicators to be used to assess domestic systemic importance of the banks are as follows:
(i) Size
(ii) Interconnectedness
(iii) Lack of readily available substitutes or financial institution infrastructure
(iv) Complexity

2. (d): Only (ii) is correct.
Important Details-
* As of now, RBI has announced 6 Cohorts under the Regulatory Sandbox (RS).
* The six entities are—Bahwan Cybertek, Crediwatch Information Analytics, enStage Software (Wibmo), HSBC in collaboration with Wibmo, napID Cybersec and Trusting Social.

RBI Grade B Phase – I
Memory Based

Directions (1-8): Read the following passage and answer the questions that follow. Some words in the passage have been highlighted to aid in answering the question.

The off-cycle meeting of the Monetary Policy Committee (MPC) on May 2 and May 4 and its decision to raise the repo rate to 4.4% sends a clear signal that the Reserve Bank of India (RBI) is committed to its mandate of keeping the consumer price index (CPI) inflation rate at 4% with an upper and lower band of plus or minus 2 percentage points. While stating that the policy remains accommodative, it has also expressed its intent to withdraw the accommodative stance. This policy response to global downward risks — including energy price volatility, supply chain disruptions due to geopolitical risks and macroeconomic uncertainties — is welcome.

The RBI has re-calibrated the monetary policy corridor. As per the recent MPC off-cycle meeting, the standing deposit facility (SDF) rate stands adjusted to 4.15% and the marginal standing facility (MSF) rate and the Bank Rate to 4.65%. Raising of the cash reserve ratio (CRR) to 4.5% is expected to absorb liquidity of ₹87,000 crore. Till the eruption of conflict in Europe, what was expected on the monetary policy front was a gradual move away from an accommodative stance, spread over a year or so. But the continuing war has necessitated urgent steps. The RBI has thus responded to the charge that it is behind the curve on inflation.

High inflation and low growth stare at the global economy, adding to uncertainty. The West is fearing stagflation. The International Monetary Fund (IMF) has revised its global growth forecast for 2022 downwards by 0.8 percentage point to 3.6%, in a short period of three months. The fact that the wholesale price index (WPI) inflation rate was continuing at two-digit numbers for a year and the CPI has remained above the upper band of 6% for three consecutive months has been a cause for concern. It is generally agreed that the WPI has a lagged effect on the CPI. So, the RBI will have to tighten the stance further if it is to bring down the CPI inflation rate within the band in the next few months. Hence, more tightening is on the way.

High levels of inflation will have a deleterious effect on investment and growth in India. Similarly, the high rate of inflation with very high food and energy components erodes the purchasing power of the common man, and will have serious welfare implications.

1. What can be inferred about the economy of the world from the passage?
   (a) The continuing war in Europe has caused major concerns with respect to foreign investments
   (b) High inflation plagues the world due to the many factors of uncertainty affecting the economy.
   (c) Recession and unemployment rates are growing due to a fall in economic stability.
   (d) both (b) and (c)
   (e) All of these

2. Which of the following was/were the objectives of the off-cycle meeting by RBI?
   (a) controlling inflation
   (b) countering global uncertainty
   (c) addressing charges of inaction
   (d) both (a) and (b)
   (e) All of these

3. Which of the following come(s) under the changes introduced by the RBI's new policies?
   (a) RBI's new policies make only marginal changes even in view of the war as the policies are already sufficient to counter that risk.
   (b) The RBI has chosen a defensive stance against geopolitical factors to counter inflation by adopting these policies.
   (c) RBI, with its new policies, has shown that it intends to keep its economic stance rigid till some time despite their previous commitments of change.
   (d) RBI is following in the footsteps of other economic authorities to counter disturbances in economic structure.
   (e) RBI is making changes as it goes along in accordance with factors of ever-present uncertainty which has been helpful in keeping inflation in control.

4. Which of the following if correct, most invalidates the arguments in the third passage?
   (a) WPI inflation rate is projected to come down to single digits in the coming months.
   (b) Changes in trends of WPI rate do not depend on changes in trends of CPI rate.
   (c) The IMF does not need to revise its global growth forecast after every trend change.
   (d) The changes made by RBI are enough to counteract current trend of inflation.
   (e) The economy of Western countries is capable of rapidly recovering from inflation.

5. Which of the following is true according to the data in the passage?
   (a) WPI and CPI have been staggered for some time now.
   (b) High levels of inflation are projected in the near future in India.
   (c) Global forecast has decreased 0.8% from its initial forecast.
   (d) RBI has raised the SDF, MSF, and the CRR rates in the recent meeting.
   (e) RBI intends to adopt an accommodative stance when it's feasible.

6. What is the primary focus of the author in the passage?
   (a) Pointing out the oversight by RBI in delaying the newly drafted policies
   (b) Bringing to light the effects of inflation in global economy

(c) Increase intake of fruits and vegetables in your diet
(d) both (b) and (c)
(e) all of these

25. Which of the following words can most appropriately be substituted in the blank in the passage?
(a) accelerate   (b) subsist   (c) catalyse
(d) benefit   (e) affect

26. Which of the following words is the most similar in its definition as the highlighted word adequate, the definition corresponding to its usage in the passage?
(a) ample   (b) restrictive   (c) cooperative
(d) exuberant   (e) vivacious

27. Choose the word from the following options which most aptly acts as an antonym to the highlighted word beneficial as it is used in the context of the passage.
(a) fragile   (b) jittery   (c) grotesque
(d) detrimental   (e) quaint

Directions (28-30): An idiom is given in each of the questions below, following which are three sentences or situations. Mark the sentences which accurately represent the idiom as the answer.

28. Get a second wind
(i) Even after dissatisfactory reports on his work, his manager decided to give him another chance.
(ii) After reaching a halt in his work, he found himself able to work again after taking a break.
(iii) He disinvested from the stocks after he saw another stock's prices going up at an exciting rate.
(a) Only (ii)   (b) Both (ii) and (iii)   (c) Both (i) and (iii)
(d) All of these   (e) None of these

29. Like two peas in a pod
(i) Tim left the party immediately after John did, following in his footsteps.
(ii) As soon as the waves subsided, they both realised they were lost and stranded in the open sea.
(iii) The two employees joined the firm at the same time can always be found hanging out together.
(a) Both (i) and (iii)   (b) Only (iii)   (c) Only (ii)
(d) All of these   (e) None of these

30. Once bitten, twice shy
(i) He's very cautious while crossing the road after just having recovered from a road accident injury.
(ii) After failing the test, he decided to study diligently, but very soon went back to his old habits.
(iii) The firm has refrained from actively investing in stocks ever since suffering losses in the recent financial crisis.
(a) Both (i) and (ii)   (b) Both (i) and (iii)   (c) Only (iii)
(d) All of these   (e) None of these

REASONING ABILITY

Direction (31-35): Study the following information carefully and answer the questions given below:

Seven classes of different subjects viz. Physics, Hindi, Math, English, Social study, Chemistry and Biology scheduled in school A but not necessarily in the same order. Each of the subject scheduled either for 30 minutes or 60 minutes.
Note: If Subject A scheduled from 9:00 am to 10:00 am than its must be scheduled on 9:00/9:30 or 10:00 am. Neither scheduled at 9:05 nor scheduled at 9:55. There is 30 minutes break given between two classes.
Hindi class is scheduled on 12:00 noon. No class scheduled between Hindi and Maths. English class scheduled at 2:00pm. There is 1:30 hours gap between English and Biology class which is scheduled after English class. Total time for all subjects is 5 hours. Physics class is scheduled 60 minutes before Maths class. No class is scheduled at 6pm and after 6pm. Chemistry class takes half time than English class and scheduled just after the English class. No class is scheduled at 10:00 am and 5:00 pm. Social study class is scheduled before the class which is scheduled at 3:30 pm. English class starts before 2:30pm.

31. Which of the following time for Chemistry class is scheduled?
(a) 3:00-3:30   (b) 4:00-4:30   (c) 3:30-4:00
(d) 4:30-5:30   (e) None of these

32. Which of the following subject is scheduled at last?
(a) Biology
(b) Chemistry
(c) Hindi
(d) Either Biology or Chemistry
(e) None of these

33. How many classes scheduled between Chemistry and Maths?
(a) More than four   (b) One   (c) Three
(d) Two   (e) None

34. _____ class is scheduled 150 minutes after Maths class?
(a) English   (b) Hindi   (c) Chemistry
(d) Social study   (e) None of these

35. The number of classes scheduled between Physics and Chemistry is same as the number of classes scheduled before _____ class.
(a) Social study   (b) English   (c) Maths
(d) Biology   (e) None of these

Direction (36-40): A word arrangement machine when given an input line of words rearranges them following a particular rule in each step. The following is an illustration of input and rearrangement.

Input: mgtuh kaops abewm bwxef mctqe aokpw
Step I: oivuj maoru adeyo dyzeh oevse aomry
Step II: adeyo aomry dyzeh maoru oevse oivuj
Step III: adeoy amory dehyz amoru eeosv ijouv
Step IV: 26 26 30 22 27 31

91. The lateral surface area of a cube is 420 cm² less than lateral surface area of a cylinder and the height of cylinder is 2x cm. If radius of the cylinder is x cm and side of the cube is equal to the radius of cylinder, then find the area (approximate) of a circle which radius is (x+3) cm.
(a) 372 cm² (b) 396 cm² (c) 288 cm²
(d) 314 cm² (e) 424 cm²

92. The marked price of an article is 1.45 times its cost price and the selling price of the article is Rs. 750. If profit percentage of shopkeeper on the article is 25%, then find the discount (in %) allowed by the shopkeeper.
(a) $\frac{400}{29}$% (b) $\frac{300}{29}$% (c) $\frac{480}{29}$%
(d) $\frac{200}{29}$% (e) $\frac{400}{23}$%

93. Vessel A contains 80 liter milk and 12 liters water, while vessel B contains 156 liters mixture of milk and water are in the ratio of 10 : 3 respectively. If vessel A and B mixed into another vessel C which already contains 12 liters waters, then find the percentage of water in vessel C.
(a) $\frac{300}{13}$% (b) $\frac{300}{19}$% (c) 20%
(d) $\frac{200}{13}$% (e) 40%

94. P and Q started a business together and investment of P is Rs. 2000 more than that of Q. After eight months, P left the business. At the end of a year, they get total profit of Rs. 6800 and profit share of P is Rs. 400X. Find the investment of Q (Given, 6X³ = 3090 − $\sqrt{324}$).
(a) 5400 Rs. (b) 5000 Rs. (c) 4800 Rs.
(d) 4000 Rs. (e) 6000 Rs.

95. A man invested Rs. 6500 on compound interest at the rate of 10% p.a. for two years in scheme A. Find the total interest (approximate) received by man on investing the amount he received from scheme A again in the same scheme for two years.
(a) 1552 Rs. (b) 1692 Rs. (c) 1652 Rs.
(d) 1532 Rs. (e) 1682 Rs.

Direction (96-97): Read the following paragraph carefully and answer the questions given below.

The monthly income of A is 60% more than B and both A & B pay equal amount for EMI. From the remaining monthly income, A and B spends a certain amount on house rent. Total amount that B pay for EMI is 20% of his monthly income and total amount A spends on house rent are 'n' times of the amount he pays for EMI.

96. If total amount spends by A on EMI and house rent is 50% of his total monthly income and total amount pay by B for EMI is Rs. 15000, then find total saving of A (Given, A and B had only two expanses from their monthly income i.e., EMI and house rent).
(a) 30000 Rs. (b) 60000 Rs. (c) 40000 Rs.
(d) 20000 Rs. (e) 25000 Rs.

97. The amount spends on house rent by A is Rs. 5000 more than that of B and total amount spends on house rent paid by A is Rs. 3000 more than total amount pays by him for EMI. If house rend paid by B is $\frac{1}{3}$rd of the amount pays by A for EMI, then which of the following possible monthly income (in Rs.) of A.
(a) 24000 Rs. (b) 18000 Rs. (c) 20000 Rs.
(d) 30000 Rs. (e) 36000 Rs.

Direction (98-102): The pie chart given below shows distribution (in degree) of total number of bookshelves manufactured by five (P, Q, R, S and T) different companies and the table given below shows percentage distribution of unsold bookshelves. Read the data carefully and answer the questions.

Distribution (in degree) of total number of bookshelves manufactured
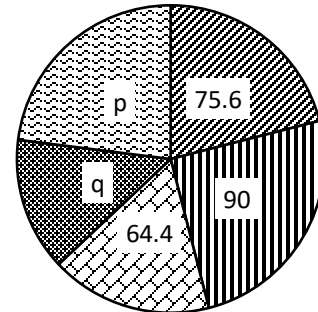
☑P ▯Q ▨R ▩S ▧T

Companies	Percentage distribution of unsold bookshelves
P	3X%
Q	12%
R	4X%
S	20%
T	40%

Note: (i) p + 25° = degree of company Q
(ii) Total bookshelves manufactured by S is 975.
(iii) Total manufactured bookshelves = Sold bookshelves + Unsold bookshelves

98. Find the value of $(20X - \frac{2p}{5} - \frac{4q}{5})$.
(a) 8 (b) 6 (c) 4
(d) 1 (e) 2

99. The selling price of each book shelve sold by P and R is Rs. 25 & Rs. 30 respectively. If total 500 bookshelves are unsold, then find total revenue generated by P and R.
(a) 53430 Rs. (b) 52430 Rs. (c) 51430 Rs.
(d) 53230 Rs. (e) 55430 Rs.

100. If difference between total unsold bookshelves of P and R is 16, then find average number of sold bookshelves of Q, S and T.
(a) 1014 (b) 1002 (c) 1004
(d) 1024 (e) 1008

exuberant – full of energy, excitement, and cheerfulness

vivacious – attractively lively and animated

27. (d): beneficial – resulting in good; favourable or advantageous

detrimental – tending to cause harm

fragile – (of an object) easily broken or damaged

jittery – nervous or unable to relax

grotesque – comically or repulsively ugly or distorted

quaint – attractively unusual or old-fashioned

28. (a): Get a second wind - Have more energy after having been tired

The idiom can only be related to by statement (ii). Thus option (a) is the correct choice.

29. (b): Like two peas in a pod - They're always together

Only statement (iii) accurately represents the idiom. Thus option (b) is the correct choice.

30. (b): Once bitten, twice shy - You're more cautious when you've been hurt before

The idiom is only represented well by statements (i) and (iii). Thus, option (b) is the correct choice.

REASONING ABILITY

Solutions (31-35):

Subject	Time
Physics	9:30-10:00
Maths	10:30-11:30
Hindi	12:00-12:30
Social study	1:00-1:30
English	2:00-3:00
Chemistry	3:30-4:00
Biology	4:30-5:30

31. (c)   **32. (a)**   **33. (c)**
34. (a)   **35. (b)**

Solutions (36-40):

Logic for each step:

Step I: All the consonants with in the words are changed with their second succeeding letter and the vowels remain same.

Step II: All the words are arranged according to dictionary order from the left end.

Step III: Letters within the word are arranged in alphabetical order.

Step IV: Sum of the place value of first and last letter within the word is taken.

Step V: The sum of the digits within the numbers is arranged in ascending order from the left end.

Input: helofkpestfumaphseub   lmodu   karlx

Step I: jenoh   mreuv   huoarjueudnoofumatnz

Step II: huoar   jenoh   jueudmatnz   mreuv   noofu

Step III: ahoru   ehjno   dejuu   amntzemruvfnoou

Step IV: 22   20   25   27   27   27

Step V: 2   4   7   9   9   9

36. (b)
37. (e)   **38. (c)**   **39. (b)**
40. (d)

41. (b): "Fallout" means adverse effect. we need to find the option which shows the adverse results after new policy approved by Delhi Government. Option (b) is the right answer as it clearly states defy by opposition.

42. (d): Nothing is discussed about favour of central government in above passage. Option (II) can be

assumed as government has reduced the minimum age from 25 to 21 and it is obvious to increase the revenue of state. Revenue comparison of Delhi with other states has not been discussed in the above statement.

Solutions (43-47):

Floors	Flat 1	Flat 2	Flat 3
3	A (Iran)	I(Korea)	C(Japan)
2	H(USA)	E(Oman)	G(UK)
1	D(Russia)	F(Malta)	B(UAE)

43. (b)   **44. (e)**   **45. (c)**
46. (a)   **47. (d)**

Solutions (48-51):

$$(-)T = M(+) — K(+), 30$$
$$20, (-)P — S(-) = W(+)$$
$$(23)$$
$$(-)X, 5$$

48. (b)   **49. (d)**   **50. (e)**
51. (c)

52. (d): Data in all the statement I, II and III together are necessary to answer the question.

Days	Persons
Tuesday	R/Q
Wednesday	U
Thursday	P
Friday	S
Saturday	R/Q
Sunday	V
Monday	T

53. (c): Data in statement I and statement III together are sufficient to answer the question.