PRACTICE SET-1

INSTRUCTIONS

- This Preliminary Exam practice set consists of three sections. Numerical Ability (Qs. 1-35); Reasoning Ability (Qs. 36-70) and English Language (Qs. 71-100).
- All the questions are compulsory.
- Each question has five options, of which only one is correct. The candidates are advised to read all the options thoroughly.
- There is negative marking equivalent to 1/4th of the mark allotted to the specific question for wrong answer.

Time: 1 hr. Max. Marks: 100

NUMERICAL ABILITY

DIRECTIONS (Qs. 1-15): What will come in place of question mark (?) in the given question?

1.
$$4\frac{1}{2} + \left(1 \div 2\frac{8}{9}\right) - 3\frac{1}{13} = ?$$

(a)
$$1\frac{9}{26}$$
 (b) $2\frac{7}{13}$

(b)
$$2\frac{7}{13}$$

(c)
$$1\frac{11}{26}$$
 (d) $2\frac{4}{13}$

(d)
$$2\frac{4}{13}$$

(e)
$$1\frac{10}{13}$$

2.
$$\frac{6 \times 136 \div 8 + 132}{628 \div 16 - 26.25} = ?$$

(e) 28
3.
$$\{(441)^{1/2} \times 207 \times (343)^{1/3}\} \div \{(14)^2 \times (529)^{1/2}\}$$

- (a) $6\frac{1}{2}$ (b) $5\frac{1}{2}$
- (c) $5\frac{3}{4}$
- (d) $6\frac{3}{4}$

(e)
$$6\frac{1}{4}$$

4.
$$\left\{\sqrt{7744} \times (11)^2\right\} \div (2)^3 = (?)^3$$

(b) 9

(d) 13

5.
$$(4356)^{1/2} \div \frac{11}{4} = \sqrt{?} \times 6$$

(b) 4

(c) 8

(d) 6

(e) 16

6.
$$\frac{3}{8}$$
 of $\{4624 \div (564 - 428)\} = ?$

- (a) $13\frac{1}{4}$ (b) $14\frac{1}{2}$
- (c) $11\frac{5}{6}$ (d) $12\frac{3}{4}$

(e)
$$12\frac{1}{8}$$

- $456 \div 24 \times 38 958 + 364 = ?$
 - (a) 112
- (b) 154
- (c) 128
- (d) 136
- (e) 118 8. $(43)^2 + 841 = (?)^2 + 1465$

(b) 35

(c) 38

(d) 33

9.
$$3\frac{3}{8} \times 6\frac{5}{12} - 2\frac{3}{16} \times 3\frac{1}{2} = ?$$

(c) 14

(b) 18 (d) 15

- (e) 16
- 10. $(34.5 \times 14 \times 42) + 2.8 = ?$

- (a) 7150
- 7365 (b)
- (c) 7245
- (d) 7575
- (e) 7335
- $(216)^4 + (36)^4 \times (6)^5 = (6)^7$

(b) 11

- (c) 7
- (d) 9
- (e) 10
- $\frac{\sqrt{4356 \times \sqrt{?}}}{\sqrt{6084}} = 11$
- (b) 196
- (c) 169
- (d) 81
- (e) 121
- $\left(3\frac{6}{17} \div 2\frac{7}{34} 1\frac{9}{25}\right) = (?)^2$

- $(1097.63 + 2197.36 2607.24) \div 3.5 = ?$
 - (a) 211.5
- (b) 196.5
- (c) 209.5
- 192.5
- (e) 189.5
- $\frac{1}{11} \text{ of } [(17424)^{1/2} \div (66)^2 \times 3^3] = ?^2$

- 12 yr ago the ratio between the ages of A and B was 3:4

respectively. The present age of A is $3\frac{3}{4}$ times of C's present

age. If C's present age is 10 yr, then what is B's present age? (in years)

- (a) 48
- (b) 46
- (c) 60
- 54 (d)

- (e) 36
- A certain number of capsules were purchased for ₹216,15 more capsules could have been purchased in the same amount if each capsule was cheaper by ₹ 10. What was the number of capsules purchased?
 - (a) 6

(b) 14

- (c) 8
- (d) 12
- (e) 9
- M, N, O and P divided ₹ 44352 among themselves. M took

 $\frac{3}{8}$ th of the money, N took $\frac{1}{6}$ th of the remaining amount

and rest was divided among O and P in the ratio of 3:4 respectively. How much did O get as his share?

- (a) ₹9600
- (b) ₹10600
- (c) ₹10300
- (d) ₹8700
- (e) ₹9900
- Pure milk costs ₹ 16 per litre. After adding water the milkman sells the mixture ₹ 15 per litre and thereby makes a profit of 25%. In what respective ratio does he mix milk with water?
- (b) 4:3
- (c) 3:2
- (d) 5:3
- (e) 4:1
- 1/3rd the diagonal of a square is $3\sqrt{2}$ m. What is the measure of the side of the concerned square?
 - 12 m (I)
- (b) 9m
- 18m (c)
- (d) 6m
- 7m (e)
- DIRECTIONS (Qs. 21-25): What will come in place of question mark (?) in the given number series?
- 37, ?, 103, 169, 257, 367
 - (a) 61
 - (c) 67
- (b) 59 (d) 55
- (e) 71

- 4, 6, 34, ?, 504, 1234
 - (a) 194
- (b) 160 (d) 156
- (c) 186
- (e) 172 3, ?, 14, 55, 274, 1643
- (a) 11

(b) 5

(c) 6

(d) 8

- (e) 7
- 960, 839, 758, 709, ?, 675
 - (a) 696
- 700 (b) (d) 678
- (e)

688 (c)

- 61, 72, ?, 73, 59, 367, 74, 58 (a) 70
- (c) 71

(d) 62

- Two pipes can full a tank in 10 h and 16 h respectively. A third pipe can empty the tank in 32 h. If all the three pipes function simultaneously, then in how much time the tank will be full? (in hours)

- (d) $6\frac{5}{14}$
- A merchant bought some goods worth ₹6000 and sold half of them at 12% profit. At what profit per cent should he sell the remaining goods to make and overall profit of 18%?
 - 24 (a)

(b) 28

18 (c)

(d) 20

(e) 26



28.	A and B are two numbers. 6 times of square of B is 540 more
	than the square of A. If the respective ratio between A and
	B is 3: 2, what is the value of B?

10 (a)

(b) 12

(c) 16

(d) 8 (e) 14

The perimeter of a rectangle whose length is 6 m more than its breadth is 84 m. What would be the area of a triangle whose base is equal to the diagonal of the rectangle and whose height is equal to the length of the rectangle? (in m²)

324 (a)

(b) 372 (d) 364

360 (c)

(e) 348

56 workers can finish a piece of work in 14 days. If the work is to be completed in 8 days, then how many extra workers are required?

(a) 36

(b) 48

(c) 44

(d) 42

32 (e)

DIRECTIONS (Qs. 31-35): Study the table carefully and answer the given questions.

Number of Pages Printed by 6 Printers in 5 Different Weeks

Printer Week	A	В	C	D	Е	F
1st	664	618	628	552	638	419
2nd	569	441	519	438	621	537
3rd	440	614	503	527	541	742
4th	256	563	347	651	412	321
5th	717	429	598	582	519	693

31. What is the respective ratio between the number of pages printed by Printer B in 2nd week and the number of pages printed by Printer F in 5th week?

(a) 4:9 (c) 9:13 (b) 11:13

(d) 7:11

(e) 9:11

What is the average number of pages printed by all the given printers in 4th week?

(a) 375

(b) 425

(c) 415

- (d) 430
- Which of the following printer printed maximum number of pages in all the given weeks together?

(a) Printer A

(b) Printer E

(c) Printer D

- (d) Printer C
- (e) Printer F
- Number of pages printed by Printer A in 3rd week is what per cent of the total number of pages printed by Printed D in all the given weeks?

(a) 22

(b) 18

(c) 12

(d) 14

(e) 16

What is the difference between the total number of pages printed by Printer E in 1st, 2nd and 4th week together and total number of pages printed by Printer C in all the given weeks together?

(a) 952 924 (c)

(b) 878

(d) 934

(e) 918

REASONING ABILITY

Four of the following five are alike in a certain way and hence from a group. Which of the following does not belong to that group?

(a) Walk

(b) Cry

Play (c)

(d) Study

(e) Alive

- How many such pairs of letters are there in the word 'VIRTUAL', each of which has as many letters between them in the word (in both forward and backward direction) as they have between them in the English alphabetical series?
 - (a) None

(b) One

(c) Two

(d) Three

(e) More than three

How many meaningful English words can be formed with the letters 'ILP' using all the letters only once in each word?

(a) None (b) One

Two (c)

(d) Three

(e) More than three

If each alternate letter in the word 'FLIPPER' starting with F is changed to the next letter in the English alphabetical series and each of the remaining letters is changed to the previous letters in the English alphabetical series then how many letters will appear more than once in the new arrangement?

(a) None

(b) One

(c) Two (d) Three

(e) Four

Pointing to a girl, Mr. Arun said. "She is the daughter of my mother's only child". How is the girl related to Mr. Arun?

(a) Sister (b) Mother

Cousin (c)

(d) Daughter

(e) Cannot be determined

DIRECTIONS (Qs. 41-45): Study the following information to answer the given questions:

Eight friends A, B, C, D, E, F, G and H are sitting around a circle facing the centre, not necessarily in the same order. F sits fourth to the left of B. A and H are immediate neighbours of F. C sits third to the left of A. G sits third to the right of E.

What is D's position with respect to B?

(a) Immediate left

(b) Sixth to the right

(c) Second to the left

(d) Seventh to the left

(e) Fifth to the right

What arc the immediate neighbours of G?

(a) F and H

(b) A and F

(c) C and H

(d) A and B

(e) B and C

If C is related to E in a certain way and similarly F is related B in the same way, to whom is A related to?

disha

(a) H

(b) D

(c) G

- (d) C
- (e) Non of these
- 44. Four of the following five are alike in a certain way based on their seating positions in the above arrangement and so form a group. Which is the one that **does not** belong to the group?
 - (a) FE
- (b) HA
- (c) DG
- (d) BE

- (e) CF
- 45. If all the eight friends are made to sit alphabetically in the clockwise direction starting from A, positions of how many will remain unchanged (excluding A)?
 - (a) None
- (b) One
- (c) Two
- (d) Three
- (e) Four

DIRECTIONS (Qs. 46-50): In each question below arc two statements followed by two conclusions numbered I and II. You have to take the two given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

Give answer (a) if only conclusion 1 follows.

Give answer (b) if only conclusion II follows.

Give answer (c) if either conclusion I or conclusion II follows

Give answer (d) if neither conclusion I nor conclusion II follows.

Give answer (e) if both conclusions I and II follow.

46. Statements:

Some windows arc grills.

All glasses are grills.

Conclusions:

- I. All grills are windows.
- II. At least some grills are glasses.
- 47. Statements:

Some painters are artists. Some dancers are painters.

Conclusions:

- I. All artists are dancers.
- II. All painters are dancers.
- 48. Statements:

All cabins are rooms.

All rooms are buildings.

Conclusions:

- I. All buildings are rooms.
- All cabins are buildings.
- 49. Statements:

All rings are necklaces.

No necklace is a bracelet.

Conclusions:

- I. No ring is a bracelet.
- II. All necklaces are rings.
- 50. Statements:

All hands are arms.

Some hands are muscles.

Conclusions:

- Some muscles are arms.
- All muscles are arms.

DIRECTIONS (Qs. 51-55): Study the following information to answer the given questions:

Seven friends - L, M, N, O, P, Q and R are sitting in a straight line facing North, not necessarily in the same order. M sits fifth to the right of O. P sits third to the right of L. Both L and P do not sit at the extreme ends of the line. Q and R are immediate neighbours of each other. N sits third to the left of O.

- 51. What is O's position with respect of R?
 - (a) Second to the right
- (b) Third to the left
- (c) Second to the left
- (d) Third to the right
- (e) None of these
- 52. Which of the following represents the friends sitting at the extreme ends of the line?
 - (a) O, M
- (b) Q,O
- (c) N, M
- (d) Q, N
- (e) None of these
- 53. If all the seven friends are made to sit in alphabetical order from **left to right**, the positions of how many will remain unchanged?
 - (a) Four
- (b) Three
- (c) One
- (d) Two
- (e) None
- 54. Who sits exactly in the middle of the row?
 - (a) P

(b) L

(c) O

- (d) R
- (e) None of these
- 55. Four of the following five are alike in a certain way based on their seating positions in the above arrangement and so form a group. Which is the one that **does not** belong to the group?
 - (a) MP
- (b) RQ
- (c) ON
- (d) LN

(e) QL

DIRECTIONS (Qs. 56-58): In each question below is given a group of numbers/symbols followed by five combinations of letter codes numbered (a), (b), (c), (d) and (e). You have to find out which of the combinations correctly represents the group of numbers/symbols based on the following coding system and the conditions and mark the number of that combination as your answer.

Number/ Symbols	9	4	&	5	%	3	#	7	6	@	8	+	2	\$
Letter Codes	X	P	J	Н	В	D	K	F	S	T	N	G	R	L

Conditions:

- (i) If the first element is a symbol and the last element is a number, then the codes for both are to be interchanged.
- (ii) If both the first and last elements are symbols, then the last element is to be coded as the code for the first element.



- (iii) If the group of elements contains only one symbol, then that symbols is to be coded as A.
- 28%956 56.
 - (a) RNBXHS
- (b) RNAXSH
- (c) RNBXSH
- (d) RNAXHS
- (e) RNASHX
- 57. ©62+74
 - (a) PSRGFT
- TSRFGP
- (c) PSRFGT
- (d) PRSGFT
- (e) TSRGFP
- +5963%
 - (a) GHXSDG
- **GSHXDB**
- (c) GHXDSG
- GXHSDG (e)
- (d) **GHSXDB**
- **DIRECTIONS (Qs. 59-62): In these questions, relationships** between different elements is shown in the statements. These statements are followed by two conclusions.

Give answer (a) if only conclusion I follows.

Give answer (b) if only conclusion II follows.

Give answer (c) if either conclusion I or conclusion II

Give answer (d) if neither conclusion I nor conclusion II follows.

Give answer (e) if both conclusions I and II follow.

Statement:

 $A < L < T < R \le H > K$

Conclusions:

- I. H > L
- K > TII.
- 60. **Statement:**

 $P = N > D \ge G < B = J$

Conclusions:

- I G < P
- G < JII.
- 61. Statement:

 $F \le C \ge V = Z < X = U$

Conclusions:

- I. V < U
- Z < FII.
- **Statement:**

 $Q \le E = I > N \ge R \ge S$

Conclusions:

- E = SI
- $S \le N$
- Which of the following symbols should replace question mark (?) in the given expression in order to make the expressions 'A > D' and 'F \geq C' definitely true?

 $A > B \ge C?D \le E = F$

- (a) >
- (b) <
- (c) ≤
- (d) =
- (e) Either = or \geq
- Which of the following expressions is definitely true if the given expressions 'R < P' as well as 'S > Q' are definitely true?

- (a) $P > Q = R \le T \le S$
- (b) $S > T \ge R > Q < P$
- (c) $Q > R \le T > P \ge S$
- (d) $S > T \ge R > Q > P$
- (e) None of these
- Read the following information carefully and answer the question which follows:
 - 'A × B' means 'A is the father of B'.
 - 'A + B' means 'A is the daughter of B'.
 - 'A ÷ B' means 'A is the son of B'.
 - 'A B' means 'A is the sister of B'.

What will come in place of question mark to establish that P is the son-in-law of S in the following expression?

 $P \times Q + R - T ? S$

- (a) +
- (b) ×

(c)

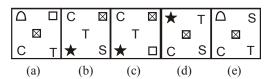
- (d) ÷
- (e) Either + or ÷

DIRECTIONS (Qs. 66-70): In each of the questions given below which one of the five answer figures on the right should come after the problem figures on the left, if the sequence were continued?

66. **Problem figures**



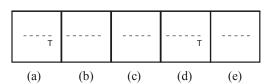
Answer figures



Problem figures

*****	****	*		
CCCCCC	CCCCCC	CCCCCC	CCCCC	CC
TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTT
777777	•••;;;	• • • • •	••	

Answer figures

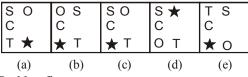


Problem figures



Answer figures

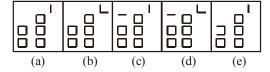




Problem figures



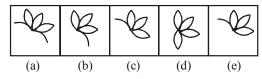
Answer figures



Problem figures



Answer figures



ENGLISH LANGUAGE

DIRECTIONS (Qs. 71-75): Which phrase should replace the phrase given in bold in the sentence to make it grammatically correct? If the sentence is correct as it is given, then mark 'No correction required' as your answer.

- We asked her that how she got time to write all these books.
 - (a) that how did she got
 - (b) that how she was getting
 - (c) how did she get
 - (d) how she got
 - (e) No correction required
- Studies in the past have shown that those who limit their activity span during the day in winters are more likely to suffer from depression.
 - (a) more likely for
- (b) mostly likely to
- (c) most likely for
- (d) most likeliest for
- (e) No correction required
- In some cases, factors like low salary, lack of growth prospects and lack of motivation compel all employee to look for a change.
 - (a) compel those employees
 - (b) compelling all employees
 - (c) compelling the employee
 - (d) compel employees
 - (e) No correction required
- Living with compassion and contributing to others lives

- would helping us add happiness to our lives as well.
- will helping us
- (b) will help us
- would helped them (c)
 - (d) will helped us No correction required
- The easiest way for prevent stress caused by work or home pressures is to indulge in high levels of physical activity.
 - easily way to
- (b) easier ways for
- easiest way to
- (d) easier way from
- No correction required

DIRECTIONS (Os. 76-80): Read this sentence to find out whether there is any grammatical mistake/error in it. The error, if any, will be in one part of the sentence. Mark that part with the error as your answer. If the sentence is correct as it is, mark 'No error' as your answer. (Ignore the errors of punctuation if any.)

- 76. A red and sore tongue/is an indicator from/lack of iron Vitamin-B₁₂/in the body.
 - (a) a red and sore tongue
 - is an indicator from
 - lack of iron and Vitamin-B₁₂
 - (d) in the body
 - (e) No error
- In the high-strung life/of over- crowded metros/there a constantly tug of war/over space and resources.
 - in the high-strung life
 - of over-crowded metros
 - there a constantly tug of war (c)
 - (d) over space and resources
 - No error (e)
- 78. The foremost criterion of selection we adopted/were the number of years of training/a singer had received/under a particular guru.
 - The foremost criterion of selection we adopted
 - were the number of years of training
 - a singer had received
 - under a particular guru
 - (e) No error
- Excess weight is the result of/unhealthy eating habits/which are inherent risk factors/responsible for many diseases.
 - excess weight is the result of
 - unhealthy eating habits (b)
 - which are inherent risk factors
 - responsible for many diseases
 - (e) No error
- The therapeutic benefits/at helping others/have long been/ recognised by people.
 - the therapeutic benefits
- (b) at helping others
- have long been
- (d) recognised by people
- No error

DIRECTIONS (Qs. 81-85): Rearrange the given five sentences (A, B, C, D) and (E) in a proper sequence so as to form a meaningful paragraph and then answer the given questions.

- With so many products and opportunities available in the A. market, it is very easy to get this planning wrong.
- B. Planning, therefore, is imperative and should begin as early



as possible.

- C. What amount will we need and when will we need it?
- D. Most of us would put our children's education above any other priority in life including our own retirement.
- E. So, let's try to find the best solution by asking two important question.
- 81. Which of the following should be the **SECOND** sentence after rearrangement?
 - (a) D

(b) B

(c) C

(d) E

(e) A

- 82. Which of the following should be the **FIFTH** sentence after rearrangement?
 - (a) A

(b) B

(c) C

(d) E

(e) D

- 83. Which of the following should be the **FIRST** sentence after rearrangement?
 - (a) A

(b) B

(c) E

(d) C

- (e) D
- 84. Which of the following should be the **THIRD** sentence after rearrangement?
 - (a) D

(b) B

(c) C

(d) E

- (e) A
- 85. Which of the following should be the **FOURTH** sentence after rearrangement?
 - (a) A

(b) B

(c) E

(d) D

(e) C

DIRECTIONS (Qs. 86-90): In these questions, two sentences (I) and (II) are given. Each sentence has a blank in it. Against each five options are suggested. Out of these, only one fits at both the places in the context of each sentence. Mark that option as your answer.

- 86. I. The report ended on a note.
 - II. They must take steps to deal with the problem.
 - (a) criticising

(b) huge

(c) positive

- (d) fancy
- (e) cursory
- 87. I. In today's world parents usually that their children do not talk to them as they are more involved in electronic gadgets and social media.
 - II. He would about every other child on the playground and his parents would fight with other parents so as to protect him.
 - (a) feel

(b) defend

(c) fight

- (d) complain
- (e) observe
- 88. I. He was good with Mathematics so he could not fathorn why other people cribbed about such an subject.
 - II. In a world so riddled with greed and corruption where

every man seems to be out to get another, it is not very to trust others.

(a) good

(b) exciting

(c) wise

(d) easy

(e) interesting

- The area under our eyes in connected to our kidneys, so any change in the dark circles indicates dehydration or accumulating toxins.
 - II. Many Indian adults are struggling with weight, thus indulging in weight loss programmes that require changes in their current lifestyle.
 - (a) drastic

(b) frequent

(c) ambiguous

(d) severe

(e) aggressive

- 90. I. Usually fund-raising events and charity auctions raise a large amount of money as people from all sections of the society get an opportunity to for a cause.
 - II. Today, a person needs to very hard for surviving in the corporate race.
 - (a) work

(b) contribute

(c) effort

(d) donate

(e) dedication

DIRECTIONS (Qs. 91-100): In the given passage there are blanks, each of which has been numbered. Against each, five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.

Trust is the basic tenet for all relationships, so building an environment of trust is one of the (91) important things one can do to (92) a positive work environment. It is a philosophy that must be demostrated in everything you and your staff does. Trust is about doing what you say you are going to do and being who you say you (93). It is about showing your staff in everything you do that you are reliable, responsible and accountable and that they can (94) on you for consistency. Also, letting them know you (95) the same from them. When your words and behaviour are congruent you (96) trust. It will take sometime for your staff members to learn that you are a person of your word. If they see that you are consistent you will build trust, but if they see that your words don't match your behaviour their trust in you will be (97). The unfortunate thing about trust is that it takes a long time to build, but is very fragile and breaks easily. Once broken, it takes an (98) longer time to regain and it may never be fully rebuilt. Therefore, it is of primary importance that you are (99) of all your words and behaviour and ensure that they are worthy of your employees' trust. Even while dealing with uncomfortable situations, if you are honest and upfront it will make thing (100) for everyone.

- 91. (a) most
- (b) single
- (c) extreme
- (d) high
- (e) crucial
- 92. (a) believe (c) create
- (b) accept(d) lift
- (e) add
- 93. (a) is

(b) will



8

(c) are

(e) could

94. (a) trust

(c) believe

(e) try

95. (a) are

(c) demands

(e) harbour

96. (a) foster

> (c) ask

97. (a) broke

collect (e)

(d) would

(b) rely

(d) expect

(b) belong

(d) expect

(b) seek (d) built

(b) fall

(c) degrade

eliminate (e) even (a)

(c) elaborate

enormous (e)

99. (a) cautious

(c) worried

asking (e)

100. (a) simplest

(c) real

wrong (e)

(d) destroyed

(b) very

(d) much

(b) careful

(d) afraid

(b) easier

(d) contrast

				RESPO	ONSE SHEET				
1.	a b c d e	2.	a b c d e	3.	abcde	4.	a b c d e	5.	a b c d e
6.	(a) (b) (c) (d) (e)	7.	abcde	8.	abcde	9.	abcde	10.	(a) (b) (c) (d) (e)
11.	(a) (b) (c) (d) (e)	12.	a b c d e	13.	(a) (b) (c) (d) (e)	14.	abcde	15.	(a) (b) (c) (d) (e)
16.	(a) b) c) d) e)	17.	a b c d e	18.	(a) b) (c) d) (e)	19.	(a) (b) (c) (d) (e)	20.	(a) b) c) d) e)
21.	(a) b) c) d) e)	22.	abcde	23.	(a) (b) (c) (d) (e)	24.	(a) (b) (c) (d) (e)	25.	(a) b) c) d) e)
26.	(a) (b) (c) (d) (e)	27.	a b c d e	28.	abcde	29.	abcde	30.	(a) (b) (c) (d) (e)
31.	(a) (b) (c) (d) (e)	32.	a b c d e	33.	abcde	34.	abcde	35.	(a) (b) (c) (d) (e)
36.	(a) (b) (c) (d) (e)	37.	a b c d e	38.	abcde	39.	abcde	40.	(a) b) c) d) e)
41.	(a) (b) (c) (d) (e)	42.	a b c d e	43.	(a) (b) (c) (d) (e)	44.	(a) (b) (c) (d) (e)	45.	(a) (b) (c) (d) (e)
46.	(a) (b) (c) (d) (e)	47.	a b c d e	48.	(a) (b) (c) (d) (e)	49.	(a) (b) (c) (d) (e)	50.	(a) (b) (c) (d) (e)
51.	(a) (b) (c) (d) (e)	52.	a b c d e	53.	(a) (b) (c) (d) (e)	54.	(a) (b) (c) (d) (e)	55.	(a) (b) (c) (d) (e)
56.	abcde	57.	a b c d e	58.	abcde	59.	abcde	60.	a b c d e
61.	(a) (b) (c) (d) (e)	62.	abcde	63.	abcde	64.	abcde	65.	(a) (b) (c) (d) (e)
66.	(a) b) c) d) e)	67.	a b c d e	68.	(a) b) (c) d) (e)	69.	(a) (b) (c) (d) (e)	70.	(a) b) c) d) e)
71.	(a) b) c) d) e)	72.	a b c d e	73.	(a) (b) (c) (d) (e)	74.	a b c d e	75.	a b c d e
76.	abcde	77.	a b c d e	78.	abcde	79.	a b c d e	80.	a b c d e
81.	abcde	82.	a b c d e	83.	a b c d e	84.	a b c d e	85.	a b c d e
86.	(a) (b) (c) (d) (e)	87.	a b c d e	88.	abcde	89.	a b c d e	90.	a b c d e
91.	abcde	92.	(a) (b) (c) (d) (e)	93.	a b c d e	94.	a b c d e	95.	(a) (b) (c) (d) (e)
96.	a b c d e	97.	a b c d e	98.	(a) (b) (c) (d) (e)	99.	a b c d e	100.	



	Answer Key																		
1	(e)	11	(d)	21	(b)	31	(d)	41	(a)	51	(b)	61	(d)	71	(d)	81	(b)	91	(a)
2	(c)	12	(c)	22	(b)	32	(b)	42	(e)	52	(c)	62	(b)	72	(e)	82	(d)	92	(c)
3	(d)	13	(a)	23	(b)	33	(c)	43	(c)	53	(e)	63	(d)	73	(d)	83	(e)	93	(c)
4	(c)	14	(b)	24	(e)	34	(e)	44	(d)	54	(c)	64	(a)	74	(b)	84	(e)	94	(b)
5	(e)	15	(b)	25	(b)	35	(c)	45	(a)	55	(d)	65	(e)	75	(c)	85	(c)	95	(d)
6	(d)	16	(d)	26	(b)	36	(e)	46	(d)	56	(d)	66	(e)	76	(b)	86	(c)	96	(d)
7	(c)	17	(d)	27	(a)	37	(b)	47	(d)	57	(a)	67	(d)	77	(c)	87	(d)	97	(d)
8	(b)	18	(e)	28	(b)	38	(b)	48	(b)	58	(a)	68	(c)	78	(b)	88	(d)	98	(a)
9	(c)	19	(a)	29	(c)	39	(a)	49	(a)	59	(a)	69	(c)	79	(e)	89	(a)	99	(b)
10	(c)	20	(b)	30	(d)	40	(d)	50	(a)	60	(e)	70	(a)	80	(b)	90	(a)	100	(b)

Hints & Explanations

1. (e)
$$4\frac{1}{2} + \left(1 \div 2\frac{8}{9}\right) - 3\frac{1}{13} = ?$$

$$4 + \frac{1}{2} + 1 \times \frac{9}{26} - \left(3 + \frac{1}{13}\right)$$

$$4 + \frac{1}{2} + \frac{9}{26} - 3 - \frac{1}{13}$$

$$1 + \frac{1}{2} - \frac{1}{13} + \frac{9}{26} = \frac{26 + 13 - 2 + 9}{26} = 1\frac{10}{13}$$

2. (c)
$$\frac{6 \times 136 \div 8 + 132}{628 \div 16 - 26.25}$$

$$=\frac{6\times136\times\frac{1}{8}+132}{628\times\frac{1}{16}-26.25}$$

$$=\frac{102+132}{39.25-26.25}=\frac{234}{13}=18$$

3. (d)
$$\{(441)^{1/2} \times 207 \times (343)^{1/3}\} \div \{(14)^2 \times (529)^{1/2}\}$$

 $\{(21^2)^{1/2} \times 207 \times (7^3)^{1/3}\} \div \{(14)^2 \times (23^2)^{1/2}\}$
 $(21 \times 207 \times 7) \div ((14)^2 \times 23)$
 $\frac{21 \times 207 \times 7}{14 \times 14 \times 23} = 6\frac{3}{4}$

4. (c)
$$\left\{\sqrt{7744} \times (11)^2\right\} \div (2)^3 = (?)^3$$

 $\left\{88 \times (11)^2\right\} \div (2)^3$
 $88 \times (11)^2 \times \frac{1}{8} = (11)^3$

5. (e)
$$(4356)^{\frac{1}{2}} \div \frac{11}{4} = \sqrt{?} \times 6$$

 $(66^2)^{\frac{1}{2}} \times \frac{4}{11}$
 $66 \times \frac{4}{11} = 4 \times 6 = \sqrt{16} \times 6$
 $? = 16$

6. (d)
$$\frac{3}{8}$$
 of $\left\{4624 \div (564 - 428)\right\} = ?$

$$\frac{3}{8} \times \left\{4624 \times \frac{1}{136}\right\}$$

$$\frac{3}{8} \times 34 = 12\frac{3}{4}$$

7. (c)
$$456 \div 24 \times 38 - 958 + 364 = ?$$

= $456 \times \frac{1}{24} \times 38 - 958 + 364 = 722 - 958 + 364$
= 128

8. (b)
$$(43)^2 + 841 = (?)^2 + 1465$$

 $1849 + 841 = (?)^2 + 1465$
 $1225 = (?)^2$
 $? = 35$

9. (c)
$$3\frac{3}{8} \times 6\frac{5}{12} - 2\frac{3}{16} \times 3\frac{1}{2}$$

 $\left(3 + \frac{3}{8}\right) \times \left(6 + \frac{5}{12}\right) - \left(2 + \frac{3}{16}\right) \times \left(3 + \frac{1}{2}\right)$
 $\frac{27}{8} \times \frac{77}{12} - \frac{35}{16} \times \frac{7}{2}$
 $\frac{2079}{96} - \frac{245}{32} = \frac{2079 - 735}{96} = 14$



10. (c)
$$(34.5 \times 14 \times 42) \div 2.8$$

= $34.5 \times 14 \times 42 \times \frac{1}{2.8}$

=7245
11. (d)
$$(216)^4 \div (36)^4 \times (6)^5 = (6)^?$$

 $(6^3)^4 \div (6^2)^4 \times (6)^5$
 $(6^3)^4 \times \frac{1}{6^8} \times (6)^5$
 $6^{12+5-8} = 6^9$

12. (c)
$$\frac{\sqrt{4356} \times \sqrt{?}}{\sqrt{6084}} = 11$$

$$\frac{\sqrt{66 \times 66} \times \sqrt{?}}{\sqrt{78 \times 78}} = 11$$

$$\frac{66 \times \sqrt{?}}{78} = 11$$

$$\sqrt{?} = \frac{11 \times 78}{66}$$

$$\sqrt{?} = 13$$
$$? = 169$$

13. (a)
$$\left(3\frac{6}{17} \div 2\frac{7}{34} - 1\frac{9}{25}\right) = (?)^2$$

 $\frac{57}{17} \times \frac{34}{75} - \frac{34}{25}$
 $\frac{19 \times 2}{25} - \frac{34}{25} = \frac{4}{25} = \left(\frac{2}{5}\right)^2$

$$? = \frac{2}{5}$$

14. (b)
$$(1097.63 + 2197.36 - 260.24) \div 3.5$$

 $(3294.99 - 2607.24) \times \frac{1}{3.5}$

$$687.75 \times \frac{1}{3.5} = 196.5$$

15. (b)
$$\frac{1}{11} \times \left[(17424)^{\frac{1}{2}} \times \frac{1}{(66)^2} \times 3^3 \right]$$
 $\frac{1}{11} \times \left[(132^2)^{\frac{1}{2}} \times \frac{1}{(66)^2} \times 3^3 \right]$

$$\frac{1}{11} \times \frac{132}{(66)^2} \times 3^3 = \frac{\cancel{2} \times \cancel{27}^9}{11 \times \cancel{66}} = \left(\frac{3}{11}\right)^2$$

16. (d)
$$\frac{A+12}{B+12} = \frac{3}{4}$$

$$A = \frac{15}{4}C$$

$$A = \frac{15}{4} \times 10 = 37.5$$

$$\frac{37.5 + 12}{B + 12} = \frac{3}{4}$$

$$B = 54$$

17. (d) Let x be the price of one capsule y be the total number of capsule.

$$xy = 216$$
 ...(1)

$$(x-10)(y+15) = 216$$
 ...(2)

From eqs (1) and (2)

$$\left(\frac{216}{y} - 10\right)(y+15) = 216$$

$$(216-10y) (y+15) = 216 y$$

$$216y+216\times15-10y^2-150y=216y$$

$$216y+3240-10y^2-150y=216y$$

$$-10y^2-150y+3240=0$$

$$y^2+15y-324=0$$

$$y = 12$$

18. (e) M's share =
$$44352 \times \frac{3}{8} = 16632$$

Remaining after M's share = 27720

N's share =
$$27720 \times \frac{1}{6} = 4620$$

Remaining after M & N's share = 23100

$$\frac{O}{P} = \frac{3}{4} \Rightarrow O$$
's share = $23100 \times \frac{3}{7} = 9900$

∴ CP of the mixture =
$$15 \times \frac{100}{125} = ₹ 12$$

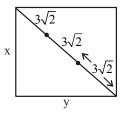
Now, by the rule of mixture,



 \therefore Ratio of milk and water in the mixture = 12:4=3:1

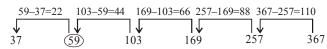


20. (b)



$$x^{2} + y^{2} = (9\sqrt{2})^{2}$$
$$2x^{2} = 81 \times 9$$
$$x = 9$$

21. (b)



22. (b)
$$4 \cdot 6 \cdot 34 \cdot 160 \cdot 504 \cdot 1234$$

 $4+(1)^3+1 \cdot 6+3^3+1 \cdot 34+5^3+1 \cdot 160+7^3+1 \cdot 504+9^3+1$
 $=6 \cdot 34 \cdot =160 \cdot =504 \cdot =1234$

24. (e)
$$960$$
, 839 , 758 , 709 , 960 ,

25. (b)
$$61-60 = 1$$
 $60-59 = 1$ $59-58 = 1$ 61 , $72 = 60$ 73 , 59 , 74 , 58 $72+1 = 73$ $73+1 = 74$

This is mixed series.

(b) $10 \text{ hr A pipe} \rightarrow 1$ 26. 16 hr B pipe \rightarrow 1 32 hr C pipe \rightarrow 1 $\frac{1}{10} + \frac{1}{16} - \frac{1}{32} = \frac{21}{160}$

$$\frac{160}{21} = 7\frac{13}{21} \text{ hr}$$

(a) Profit on all the goods = 18% of 6000 = ₹1080Profit on half of the goods = 12% of 3000 = ₹360.. Profit on remaining half of the objects =1080 - 360 = ₹720

Hence, required profit percentage = $\frac{720}{3000} \times 100\%$

=24%

(b) $6B^2 = A^2 + 540$

$$\frac{A}{B} = \frac{3}{2}$$

$$A = \frac{3B}{2}$$

$$6B^2 = \frac{9B^2}{4} + 540$$

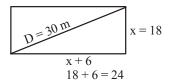
$$3.75 B^2 = 540$$

$$B = \sqrt{144} = 12$$

29. (c)
$$x+x+x+6+x+6=84$$

$$4x + 12 = 84$$

$$x = 18 \, \text{m}$$



$$D^2 = (x+6)^2 + x^2$$

$$D^2 = 24^2 + 18^2$$

$$D^2 = 576 + 324 = 900$$

$$D = 30 \,\mathrm{m}$$

Base of triangle = $30 \,\mathrm{m}$

Height of triangle = x+6=24 m

Area of triangle =
$$\frac{1}{2} \times 30 \times 24 = 360 \text{ m}^2$$

30. (d) Here, $M_1 = 56$, $D_1 = 14$, $M_2 = ?$, $D_2 = 8$ Using

$$M_1D_1 = M_2D_2,$$

56×14= M_2 ×8

$$56 \times 14 = M_2 \times 8$$

$$\Rightarrow M_2 = 98$$

Hence, extra workers to be required

$$= 98 - 56 = 42$$

31. (d) Ratio

> number of pages printed by printer B in 2nd week number of pages printed by printer F in 5th week

(b) Average number of pages printed by all the printer =

$$=\frac{256+563+347+651+412+321}{6}=425$$

disha

33. (c)

Printer Week	A	В	С	D	Е	F
1st	664	618	628	552	638	419
2nd	569	441	519	438	621	537
3rd	440	614	503	527	541	742
4th	256	263	347	651	412	321
5th	717	429	598	582	519	693
Total up to	2646	2365	2595	2750	2731	2712
5th week						

Printer D printed maximum pages.

34. (e) Required percentage (%) =

$$= \frac{\text{Pages printed by A in 3rd week}}{\text{Total page printed by D from 1st to 5th weeks}} \times 100$$

$$=\frac{440}{2750}\times100=16\%$$

35. (c) Required difference = Total no. of pages printed by printer C in all given weeks—

Total no. of pages by E in 1st,

2nd, 4th week

$$= 2595 - (638 + 621 + 412) = 924$$

36. (e) Alive is different from the other four words. Walk, Cry, Play and Study are various actions of human being. Alive means 'living', 'not dead', 'in existence', 'continuing' etc.

38. (b) Meaningful word \Rightarrow LIP

$$39. \quad \text{(a)} \quad +1 \!\!\! \int\limits_{G}^{F} \!\!\! \begin{array}{c} L \\ -1 \!\!\! \int\limits_{V}^{I} +1 \!\!\! \int\limits_{Q}^{I} -1 \!\!\! \int\limits_{Q}^{P} +1 \!\!\! \int\limits_{Q}^{P} -1 \!\!\! \int\limits_{Q}^{E} +1 \!\!\! \int\limits_{S}^{R}$$

Mother

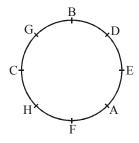
↓ only child

40. (d) Arun (Himself)

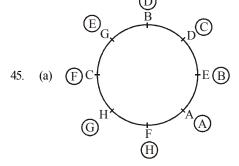
daughter/She

Therefore, the girl is the daughter of Arun.

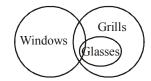
(41-45):



- 41. (a) D is to the immediate left of B.
- 42. (e) B and C are immediate neighbours of G.
- 43. (c) C is sitting just opposite to E. F is sitting just opposite to B. Similarly, A is sitting just opposite to G.
- 44. (d) Except in the pair BE, in all other pairs the first person is second to the left of the second person. B is second to the right of E.

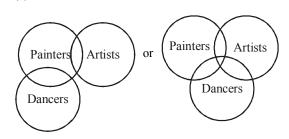




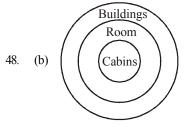


Conclusion-I : False II: False

47. (d)



Conclusion-I : False II: False

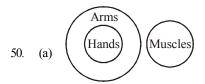


Conclusion-I : False II: True



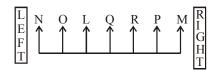


Conclusion-I: True II: False



Conclusion-I : True II: False

(51-55):

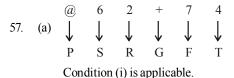


- 51. (b) O is third to the left of R.
- 52. (c) N and M are sitting at the extreme ends of the line.

53. (e)
$$\begin{bmatrix} L \\ E \\ F \\ T \end{bmatrix} \begin{pmatrix} N & O & L & Q & R & P & M \\ I & A & A & A & A \\ L & M & N & O & P & Q & R \end{bmatrix} \begin{bmatrix} R \\ I & A \\ I & A \\ I & A & A \\ I & A & A \\ I & A & A & A \\ I & A$$

- 54. (c) Q is sitting exactly in the middle of the row.
- 55. (d) Except LN, in all others the first person is to immediate right of the second person. L is second to the right of N.

Condition (iii) is applicable.



58. (a)
$$\downarrow + 5 9 6 3 \%$$

 $G H X S D G$

Condition (ii) is applicable.

59. (a) $H > K \ge R > T > L$

Conclusions:

I. H>L: True
II. K>T: Not True

60. (e) $P = N > D \ge G < B = J$

Conclusions:

I.G < P: True

II. G < J: True

61. (d) $F \le C \ge V = Z > X = U$

Conclusions:

I. V < U: Not True

II. Z < F: Not True

62. (b) $Q \le E = 1 > N \ge R \ge S$

Conclusions:

I. E = S : Not True

II. $S \le N$: True

- 63. (d) In the expression $A > B \ge C \equiv D \le E = F$ to make A > D true and $F \ge C$ true.
- 64. (a) Trying option (a)

$$P > Q = R \le T < S$$

$$P > R$$

 $R < S A_S Q = R so Q < S$

Both the expressions are true in option (a)

65. (e) $P \times Q$ means P is a father of Q.

Q + P means Q is daughter of R

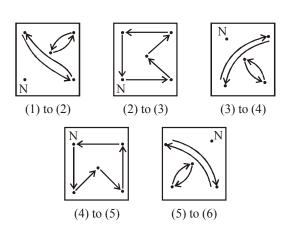
R-T means R is sister of T.

It is clear that P is husband of R. If he establish that T is either son or daughter of S, then P would be son-in-law of S.

T + S means T is daughter of S.

 $T \div S$ means T is son of S.

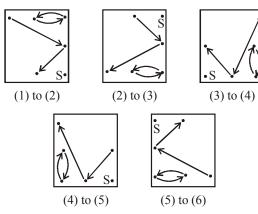
66. (e) Next figure of each question figure is changed by following way and N is replaced by a new design.



Similarly next figure is (e)

- 67. (d) In next figure of each question figure, there are two, three design in upper part and three, four design in lower part is eliminate and hence next figure is (d).
- 68. (c) Next figure of earn question figure follows following ways





Accordingly next figure is (c)

- 69. (c) In next figure of each question figure there are 1, 2, 1, 2 line in left upper part are eliminated in each figure and 6, 5, 6, 5, line are added in forward most direction, and a square is made by four lines. Hence accordingly option (c) is next figure.
- 70. (a) Next figure of each question figure is rotated clockwise by 45° and one curve is added each side, hence accordingly next figure is (a).