

Practice Set 1

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PRACTICE SET

INSTRUCTIONS

- This practice set consists of two sections. Quantitative Aptitude (Qs. 1-40) & Reasoning Ability (Qs. 41-80).
- 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.

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Max. Marks : 80

• There is negative marking equivalent to 1/4th of the mark allotted to the specific question for wrong answer.

Time : 45 Min.

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3.	(e) (e) 399 (a)	9000000 .9+206×11.009=? 2800	(b)	6666	2013 2014 2015	900 1200 -	60% 43% 60%	- - 560	30% 45% 60%
4.	(c) (e) $\frac{2}{-+}$	$4666 2670 - \frac{7}{2} \times \frac{17}{2} \div \frac{6}{2} = ?$	(d)	2400	2016 2017 Note : Fe	960 760 ew value are n	70% - nissing in the ta	1100 800 ble (indicate	50% - d by A candidate
	5 (a) (c) (e)	8 19 5 1 $2\frac{1}{2}$ $\frac{9}{11}$	(b) (d)	$\frac{1}{2}$ $\frac{3}{4}$	is expect the given 6. Ou 20 11 sta can (a) (e)	ed to calculate n questions o t of the num 15, the respect : 7. If the nu te A is 252 ndidates (botl 930 (b 1080	e the missing va n the basis of g ber of qualified ctive ratio of m umber of femal , then what is n male and fem) 1010 (c	lue, if it is re iven data ar l candidates ale and fema e qualified of s the numb ale) from sta) 1570	quired to answer ad information.) from state A in ale candidates is candidates from er of appeared ate A in 2015? (d) 1690



- 7. The number of appeared candidates from state B is increased by 100% from 2013 to 2014. If the total number of qualified candidates from state B in 2013 and 2014 together is 816, then what is number of appeared candidates from state B in 2013?
 - (a) 780 (b) 560
 - (c) 680 (d) 640
 - (e) 800
- **8.** What is the difference between the number of qualified candidates from state A in 2013 and 2014 ?

(a)	24	(b)	22
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- (c) 34 (d) 28
- (e) 36
- **9.** If the average number of qualified candidates from state B in 2015, 2016 and 2017 is 420, then what is the number of qualified candidates from state B in 2017?
 - (a) 384 (b) 395
 - (c) 483 (d) 374
 - (e) 479
- **10.** If the respective ratio between the number of qualified candidates from state A in 2016 and 2017 is 14: 9, then what is the number of qualified candidates from state A in 2017?
 - (a) 352 (b) 407
 - (c) 432 (d) 534
 - (e) 598

DIRECTIONS (Qs. 11-15): Identify which number is wrong in the given series.

(b) 9

(d) 12

11. 2, 3, 4, 4, 6, 8, 9, 12, 16.

- (a) 3
- (c) 6
- (e) None of these
- **12.** 3, 4, 10, 32, 136, 685, 4116
 - (a) 136 (b) 10
 - (c) 4116 (d) 32
 - (e) None of these
- **13.** 69, 55, 26, 13, 5

(a)	26	(b)	13
(c)	5	(d)	55

- (e) None of these
- **14.** 24576, 6144, 1536, 386, 96, 24
 - (a) 386 (b) 6144 (c) 96 (d) 1536
 - (e) None of these
- **15.** 11, 5, 20, 12, 40, 26, 74, 54
 - (a) 5 (b) 20 (c) 40 (d) 26
 - (c) 40 (d) 26
 - (e) None of these

DIRECTIONS (Qs. 16-20) : Study the following chart to answer the questions given below.

Villages	% population below poverty line
Α	45
В	52
C	38
D	58
Е	46
F	49
G	51

Proportion of population of seven villages in 2014



- 16. In 2015, the population of villages A as well as B is increased by 10% from the year 2014. If the population of village A in 2014 was 5000 and the percentage of population below poverty line in 2015 remains same as in 2014, find approximately the population of village B below poverty line in 2015.
 - (a) 4000 (b) 45000
 - (c) 2500 (d) 3500
 - (e) None of these

17.

If in 2016 the population of village D is increased by 10% and the population of village G is reduced by 5% from 2014 and the population of village G in 2014 was 9000, what is the total population of villages D and G in 2016?

- (a) 19770 (b) 19200
- (c) 18770 (d) 19870
- (e) None of these
- **18.** If in 2014 the total population of the seven villages together was 55,000 approximately, what will be population of village F in that year below poverty line ?
 - (a) 3000 (b) 2500
 - (c) 4000 (d) 3500
 - (e) None of these
- **19.** If the population of village C below poverty line in 2014 was 1520, what was the population of village F in 2014?
 - (a) 4000 (b) 6000
 - (c) 6500 (d) 4800
 - (e) None of these

(e) None of these

- **20.** The population of village C is 2000 in 2014. What will be the ratio of population of village C below poverty line to that of the village E below poverty line in that year ?
 - (a) 207:76 (b) 76:207
 - (c) 152:207
- (d) Data inadequate



DIRECTIONS (Qs. 21-25): These questions are based on the table and information given below.

There are 6 refineries, 7 depots and 9 districts. The refineries are BB, BC, BD, BE, BF and BG. The depots are AA, AB, AC, AD, AE, AF and AG. The districts are AAA, AAB, AAC, AAD, AAE, AAF, AAG, AAH ad AAI. Table A gives the cost of transporting one unit from refinery to depot. Table B gives the cost of transporting one unit from depot to a district.

Table A											
	BB	BC	BD	BE	BF	BG					
AA	928.2	537.2	567.8	589.9	589.9	800.1					
AB	311.1	596.7	885.7	759.9	759.9	793.9					
AC	451.1	0	320.1	780.1	720.7	1000					
AD	371.1	150.1	350.1	750.1	650.4	980.1					
AE	1137.3	314.5	0	1158	1158	1023					
AF	617.1	516.8	756.5	1066	1066	406.3					
AG	644.3	299.2	537.2	1093	1093	623.9					

Table B										
	AA AB AC AD AE									
AAA	562.7	843.2	314.5	889.1	0	754.8	537.2			
AAB	532.7	803.2	284.5	790.5	95.2	659.6	442			
AAC	500.7	780.2	0	457.3	205.7	549.1	331.5			
AAD	232.9	362.1	286.2	275.4	523.6	525.3	673.2			
AAE	345.1	268.6	316.2	163.2	555.9	413.1	227.8			
AAF	450.1	644.3	346.2	372.3	933.3	402.9	379.1			
AAG	654.5	0	596.7	222.7	885.7	387.6	348.5			
AAH	804.1	149.6	627.2	360.4	1035.3	537.2	498.1			
AAI	646	255	433.5	137.7	698.7	112.2	161.5			

21. What is the least cost of sending one unit from any refinery to any district?

0

284.5

(b)

(d)

- (a) 95.2
- (c) 205.7
- (e) None of these
- 22. What is the least cost of sending one unit from any refinery to the district AAB?

(a)	0	(b)	284.5
(c)	95.2	(d)	2948

- (e) None of these
- 23. What is the least cost of sending one unit from refinery BB to any district?

(a)	284.5	(b)	311.1
(c)	451.1	(d)	297.5

- (e) None of these
- 24. What is the least cost of sending petrol from refinery BB to district AAA?
 - (a) 765.6 (b) 1137.3 (d) 1174.8
 - (c) 1154.3
 - (e) None of these
- 25. How many possible ways are there for sending petrol from any refinery to any district?
 - (a) 63 (b) 42
 - (c) 54 (d) 378
 - (e) None of these

DIRECTIONS (Qs. 26-30) : In the following questions, two equations I and II are given. You have to solve both the equations and give answer.

Give answer (a) if x > yGive answer (b) if $x \ge y$ Give answer (c) if x < yGive answer (d) if $x \le y$ Give answer (e) if x = y or the relationship cannot be established

26. I.
$$\sqrt{289x} + \sqrt{25} = 0$$

II.
$$\sqrt{6}/6y + 10 = 0$$

27. I.
$$8x^2 - 78x + 169 = 0$$

II.
$$20y^2 - 117y + 169 = 0$$

28. I.
$$\frac{15}{\sqrt{x}} + \frac{9}{\sqrt{x}} = 11\sqrt{x}$$

II. $\frac{\sqrt{y}}{4} + \frac{5\sqrt{y}}{12} = \frac{1}{\sqrt{y}}$

29. I.
$$\frac{8}{\sqrt{x}} + \frac{6}{\sqrt{x}} = \sqrt{x}$$

II.
$$y^3 - \frac{(14)^2}{\sqrt{y}} = 0$$

30. I.
$$x^2 + 208 = 233$$

II. $y^2 - 47 + 371 = 0$

- 31. Neeraj's age is1/5 of his father's age. Neeraj's father's age will be twice Vinod's age after 10 years. If Vinod's eighth birthday was celebrated two years ago, then what is Neeraj's present age ?
 - (a) 14 years (b) 6 years
 - (c) 30 years (d) 10 years
 - (e) None of these
- 32. Mrs. X spends ₹ 535 in purchasing some shirts and ties for her husband. If shirts cost ₹ 43 each and the ties cost ₹ 21 each, then what is the ratio of the shirts to the ties, that are purchased ?
 - (a) 1:2 (b) 2:1
 - (c) 2:3(d) 3:4
 - (e) None of these The percentage marks obtained by Suman in History and
 - Maths is 60. If she got 180 marks out of 250 in Maths, then out of 200 the marks obtained by Suman in History is
 - (b) 120 (a) 140 (d) 90 50 (c)
 - (e) None of these

33.

 $\frac{2}{5}$ th of Anil's salary is equal to Bhuvan's salary and seven-34.

ninth of Bhuvan's salary is equal to Chandra's salary. If the sum of the salary of all of them is ₹77,000, then, how much is Bhuvan's salary?

		2		
(a)	₹45,000		(b)	₹18,000
(c)	₹15,000		(d)	₹28,000

- (c) ₹15,000
- (e) None of these



- **35.** A tap can fill an empty tank in 12 hours and a leakage can empty the whole tank in 20 hours. If the tap and the leakage are working simultaneously, how long will it take to fill the whole tank?
 - (a) 25 hours (b) 40 hours
 - (c) 30 hours (d) 35 hours
 - (e) None of these
- **36.** A train is moving at a speed of 132 km/h. If the length of the train is 110 metres, how long will it take to cross a railway platform, 165 metres long ?
 - (a) 5s (b) 7.5 s
 - (c) 10 s (d) 15 s
 - (e) None of these
- **37.** If 15 women or 10 men can complete a project in 55 days, in how many days will 5 women and 4 men working together complete the same project ?
 - (a) 75 (b) 8
 - (c) 9 (d) 85
 - (e) None of these
- **38.** Ashu's mother was three times as old as Ashu, 5 years ago. After 5 years, she will be twice as old as Ashu. How old is Ashu at present?

(b) 20

(d) 5

- (a) 15
- (c) 10
- (e) None of these
- **39.** A conical flask has base radius 'a' cm and height 'h' cm. It is completely filled with milk. The milk is poured into a cylindrical thermos flask whose base radius is 'p' cm. What will be the height of the solution level in the flask ?

(a)
$$\frac{a^2h}{3p^2}$$
 cm (b) $\frac{3hp^2}{a^2}$ cm (c) $\frac{p^2}{3h^2}$ cm (d) $\frac{3a^2}{hp^2}$ cm

- (e) None of these
- 40. A sum was put at simple interest at a certain rate for 2 years. Had it been put at 3% higher rate, it would have fetched ₹ 300 more. Find the sum.
 - (a) ₹6000 (b) ₹8230
 - (c) ₹5000 (d) ₹4600
 - (e) None of these

REASONING

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

Eight friends L, M, N, O, P, Q, R and S are sitting around a circle facing the centre. There are equal number of males and females in the group. No two females are immediate neighbours of each other. N is a male and N sits third to the right of R. O is a female and O is not an immediate neighbor of N. P sits second to the left of O. S sits fourth to the right of L and S is not an immediate neighbour of R. Q is a female.

- **41.** What is Q's position with respect to O?
 - (a) Immediate right (b) Third to the right
 - (c) Third to the left (d) Fourth to the left
 - (e) Fifth to the right
- **42.** Four of the following five are a like 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) LO (b) NL
 - (c) OP (d) PQ
 - (e) MS
- **43.** If all the eight friends are made to sit alphabetically in the clockwise direction starting from L, positions of how many will remain unchanged (excluding L)?
 - (a) None (b) One
 - (c) Two (d) Three
 - (e) Four
- 44. Which of the following is true about M?
 - (a) M sits third to the right of Q.
 - (b) M sits second to the right of L.
 - (c) M is a male.
 - (d) M sits on the immediate left of O.
 - (e) None of these
- **45.** Which of the following groups represents the females in the group?

 - (e) None of these

DIRECTIONS (Q. 46-48): Study the following information to answer the given questions.

In a certain code, 'weapons hidden in town' is written as 'white black yellow red', 'ready weapons for attack' is written as 'grey indigo red green', 'hidden for own safety' is written as 'silver grey violet white' and 'own town under attack' is written as 'violet blue indigo black'.

- **46.** What is the code for 'ready'?
 - (a) red (b) indigo
 - (c) green (d) grey
 - (e) Cannot be determined
- **47.** What does 'silver' stand for?
 - (a) safety (b) own
 - (c) hidden (d) for
 - (e) Either 'own'or 'for'
- **48.** 'black pink yellow' could be a code for which of the following?
 - (a) town under attack
 - (b) hidden for safety
 - (c) attack in town
 - (d) my own town
 - (e) risk in town



DIRECTIONS (Qs. 49-50): Read the following information carefully and answer the questions which follow.

Sudha weighs more than Bharat and Abhishek.

Rahul weighs less than only Karan.

Parul weighs as much as Sudha but less than Dana.

Abhishek does not weigh the minimum.

- **49.** Who among the following is the third heaviest?
 - (a) Karan (b) Rahul
 - (c) Bharat (d) Dana
 - (e) Cannot be determined
- 50. Which of the following is true?
 - (a) Only four people are heavier than Rahul.
 - (b) Bharat weighs more than Parul.
 - (c) No one weighs less than Bharat.
 - (d) Only two people are heavier than Karan.
 - (e) All are true

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

In a	certai	in code 'support the c	other gro	up' is v	written a	as 'ja pe l	a no'			
than	mor	ney' is written as 'fu	no ho	zi' and	l 'more	support	and			
mon	ey' is	written as ' re qi fu j	a'.					59		
51.	Wh	at is the code for 'gr	oup' ?					30.		
	(a)	ja	(b)	pe						
	(c)	la	(d)	no	100					
	(e)	Cannot be determined	ned							
52.	Wh	at does 'zi' stand for	?							
	(a)	mission	(b)	than						
	(c)	other	(d)	the						
	(e)	gains								
53.	Which of the following may represent 'more than the group'?									
	(a)	la qi ho pe	(b)	re la	qi ho			59.		
	(c)	re no la pe	(d)	pe ke	qi la		ar	' I (
	(e)	qi ho la fu								
54.	Wh	at is the code for 'mi	ssion'?							
	(a)	la	(b)	zi						
	(c)	ke	(d)	ja						
	(e)	ke or la								
55.	Wh	ich of the following n	nay repre	esent 'n	noney n	natters m	ore'?			
	(a)	fu bu re	(b)	re bu	qi					
	(c)	zi qi yo	(d)	yo fu	no					
	(e)	la fu bu		-				60.		
DIR	ЕСТ	TONS (Os. 56-60):	In each	auest	ion bel	ow are t	hree			
state	emen	ts followed by three	conclusi	ons nu	mbered	II, II and	IШ.			

DIRECTIONS (Qs. 56-60): In each question below are three statements followed by three conclusions numbered I, II and III. You have to take the three given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the answers (a), (b), (c), (d) and (e) is the correct answer and indicate it on the answer sheet.

56. Statements: Some chairs are tables. Some tables are drawers. All drawers are shelves.

- **Conclusions:** I. Some shelves are tables.
 - **II.** Some drawers are chairs.
 - III. Some shelves are drawers.
- (a) Only I and III follow
- (b) Only I and either II or III follow
- (c) Only II and either I or III follow
- (d) All I, II and III follow
- (e) None of the above
- **57. Statements:** All trees are flowers.

Some flowers are leaves.

No leaf is bud.

Conclusions: I. No bud is a flower.

II. Some buds are flowers.

III. Some leaves are trees.

- (a) Only II and III follow
- (b) Only III follows
- (c) Only either I or II follows
- (d) Either I or II and III follow
- (e) None of the above
- S. Statements: All stones are rocks. Some rocks are bricks. Some bricks are cement.
- Conclusions: I. Some cements are rocks. II. Some bricks are stone
 - III. Some stones are cement.
 - (a) Only I and either II or III follow
 - (b) Only either II or III follows
 - (c) Only I and II follow
- (d) All follow
- (e) None of the above
- Statements: All teachers are lawyers. No doctor is a teacher.
 - No engineer is a lawyer.
 - **Conclusions:** I. No teacher is a engineer.
 - **II.** No teacher is a doctor.
 - **III.** At least some lawyers are not doctors.
 - (a) Only II and III follow
 - (b) Only III doesn't follow
 - (c) All I, II and III follow
 - (d) None follows
- (e) None of these
- **0. Statements:** Some dogs are cats. No rat is a dog.
 - All cats are bats.
 - Conclusions: I. At least some dogs are definitely bats. II. At least some cats are not rats. III. No bat is a cat.
 - (a) Only I doesn't follows
 - (b) Only III doesn't follows
 - (c) Only I and II follow
 - (d) None follows
 - (e) both (b) and (c)



DIRECTIONS (Qs. 61-65): Study the following information and answer the questions given below it.

Seven people—A, B, C, D, E, F and G are sitting in a circle. Five of them are facing the centre while two of them are facing opposite to the centre. C sits third to the left of D and both are facing the centre. E is neither on immediate neighbour of D nor of C. The one sitting exactly between D and F is facing opposite to centre. G sits third to the right of A and G is facing the centre. One of B's neighbour is facing opposite to the centre.

- **61.** Which of the following pairs represents persons facing opposite to the centre?
 - (a) A and F (b) E and F
 - (c) A and E (d) Cannot be determined
 - (e) None of these
- 62. Who is sitting second to the left of A?
 - (a) C (b) G
 - (c) E (d) B
 - (e) None of these
- 63. Who is sitting to the immediate left of E?
 - (a) C (b) G
 - (c) B
 - (e) None of these
- **64.** What is the position of F with respect to B?
 - (a) Fourth to the left (b) Second to the right

(d) A

(b) One

(d) None

- (c) Third to the right (d) Second to the left
- (e) None of these
- **65.** If all the persons are asked to sit in a clockwise direction in an alphabetical order starting from A, the position of how many will remain unchanged, excluding A?
 - (a) Three
 - (c) Two
 - (e) Four

DIRECTIONS (Qs. 66-70): In the questions given below, certain symbols are used with the following meanings.

- A @ B means A is greater than B.
- A * B means A is either greater than or equal to B.
- A # B means A is equal to B.
- A \$ B means A is either smaller than or equal to B.
- A + B means A is smaller than B.

Now in each of the following questions, assuming the given statements to be true, find which of the two conclusions I and II given below them is/are definitely true?

- (a) If only conclusion I is true
- (b) If only conclusion II is true
- (c) If either conclusion I or II is true
- (d) If neither conclusion I nor II is true
- (e) If both conclusions I and II are true
- 66. Statements : B+D; E\$T; T * P; P@B Conclusions : L P\$D

II. P@D

- **67. Statements :** E*F; G\$H; H#E; G@K
 - Conclusions : I. H@K II. H*F
- 68. Statements : P\$Q; N#M; M@R; R*P
- **69. Statements :** D+T; E \$V; F *T; E@D

Conclusions : I. D\$V II. D+F

- **70.** Statements : $T^*U; U$W; V @L; W + V$
 - Conclusions : L V@T II. L#W

DIRECTIONS (Qs. 71-75) : In each question below, is given a group of letters followed by found combinations of digits/symbols numbered (a), (b), (c) and (d). You have to find out which of the four combinations correctly represents combination as your answer. If none of the combinations correctly represents the group of letters, mark (e) 'None of these', as your answer.

	-		D	.			1.6		E	D		T			2.1	117		D	1
	Lette Digit	r /Symbol	К 7	Е #	A S	6	M %	D 8	F 5	P ★	4	1	0 @	H ©	N 3	D	$\frac{Z}{1}$	<u>В</u> 2	
	code	Symbol	Ĺ		Ĺ							_			-				
	(i)	If the	fir	st 1	lette	eri	s a	cor	150	nan	t a	nd	the	th	ird	let	er	is :	a
		vowel	, th	eir	co	des	are	to	be	inte	rch	an	ged	•					
	(ii)	If the f	irst	let	teri	is a	vow	vel a	and	the	fou	ırth	let	ter i	sa	con	son	ant	
		both a	ire	to ł	be c	code	ed a	s tł	ne o	code	e fo	r tl	he v	/OW	el.				
	(iii)	Ifthe	sec	onc	d ar	nd t	he t	hir	d le	etter	rs a	re o	con	son	ant	s, b	oth	ar	e
		to be o	cod	ed	as t	he	cod	e fo	or t	he t	hir	d le	ette	r.					
	71.	NABA	AQI	Ξ		4													
		(a) 2	639	54#			_		((b)	32	.6\$4	4#						
ï		(c) 3	629	54#					((d)	36	52\$.	3#						
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		(c) @	62	289	©				((d)	©	62	©9)%					
		(e) N	lon	e o	of th	nese	e												
	74.	EMIR	DP																
		(a) #	<u>4</u> %9	78	×				((b)	#%	⁄ ₆ 9‡	#8≠	r					
		(c) 7	%9	#8	¥				((d)	#9	%	78★	r					
		(e) N	Jon	e o	of tł	nese	2												
	75	ORE	OHN	Л															
	10.	(a) (i	211. 274	1 186	<u> </u>					b)	#7	7#8	00	6					
		(a) (b)	יי ה היי	, U «	୬ / 0 ¬\0/					() ()	π1 (~	71 10		0/0/					
		(c) (e	w R	S# (%				((a)	a	,/#	we	/ %0					
		(e) N	Von	e o	of th	iese	e												



DIRECTIONS (Qs. 76-80) : Study the following information carefully and answer the given quesions following it.

- Eleven students A, B, C, D, E, F, G, H, I, J and K are sitting in (i) the first row of a class facing the teacher.
- D, who is on the immediate left of F, is second to the right of C. (ii)
- A is second to the right of E, who is at one of the ends. (iii)
- (iv) J is the immediate neighbour of A and B and third to the left of G.
- H is on the immediate left of D and third to the right of I. (v)
- 76. Who is sitting midway between E and H?
 - (a) J (b) B
 - (c) I (d) G
 - (e) None of these
- 77. Which of the following statements is not ture in the context of the above sitting arrangement?
 - (a) There are seven students sitting between K and D
 - (b) G is the immediate neighbour of I and C

- (c) H is the immediate neighbour of D and F
- (d) K is between E and A
- (e) F is third to the right of C
- 78. To obtain the respective seats of all the persons which statement given above is not required?
 - (a) I (b) II
 - (c) III (d) IV
 - (e) None of these
- 79. Besides 'E', who among the following is at the extreme end?
 - (a) K (b) F (c) B
 - (d) Can't say
 - (e) None of these
- Which of the following groups is at the left of I? 80.
 - (a) AJB (b) GCH
 - (c) HDF (d) CHD
 - (e) None of these

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HINTS & EXPLANATIONS

1. (b)
$$13379.75 \div 9.75 + (45.95 \times \sqrt{398.95}) = ?$$

 $\Rightarrow 1338 + (46 \times 20) = 2258$

2. (b)
$$? = \frac{(10008.99)^2}{10009.001} \times \sqrt{3589} \times 0.4987$$

$$\frac{(10009)^2 \times \sqrt{3600}}{10009} \times 0.50 = 10009 \times 60 \times 0.50 \approx 300000$$

3. (e) $?=399.9+206 \times 11.009$ = 400+(200+6) × 11 = 400+2200+66 ≈ 2670

4. (a)
$$? = \frac{2}{5} + \frac{7}{8} \times \frac{17}{19} \div \frac{6}{5} = \frac{2}{5} + \frac{7}{8} \times \frac{17}{19} \times \frac{5}{6}$$

$$=\frac{2}{5} + \frac{595}{912} = 0.40 + 0.65 \approx 1.05 \approx 1$$

- 5. (b) $\sqrt{330} + \sqrt{8200} + 125.25 1264.95 = ?$ $\Rightarrow 18 + 90 + 125 - 1265$ $\Rightarrow -1032$
- (e) Required number of appeared candidates who qualified from state A in 2015
 = (252/7) × (11+7) = 648
 So Total number of appeared candidate from state A in 2015

 $=(648/60 \times 100) = 1080$

- 7. (c) Let the number of appeared candidate from state B in 2013 = 100So number of appeared candidate in 2014 from state B in 2014 = 200 So Required number of appeared candidate from B in 2013 = 816/(30+90) × 100 = 680
- 8. (a) Required difference = $900 \times 60/100 - 1200 \times 43/100$ = 540 - 516 = 24
- 9. (d) Required number of qualified candidate from state B in $2017 = (3 \times 420) - (560 \times 60/100 + 1100 \times 50/100)$ = 1260 - (336 + 550) = 1260 - 886= 374
- 10. (c) Number of qualified candidate from state P in $2016=960 \times 70/100=672$ So Required number of qualified candidate from state A in 2017 $=672/14 \times 9=432$

11. (b)
$$\begin{array}{c} \times 2 & \times 2 \\ 2 & 3 & 4 & 4 & 6 & 8 & 8 & 12 & 16 \\ & & & \times 2 & & \times 2 \\ & & & \times 2 & & \times 2 \end{array}$$

12. (d) 3 4 10 33 136 685 4116 × 1 + 1 × 2 + 2 × 3 + 3 × 4 + 4 × 5 + 5 × 6 × 6

Thus, 32 is out of place and must be replaced by 33.

- 13. (c) $\begin{array}{c} 69 & 55 & 26 & 13 & 4 \\ 6 \times 9 + 1 & 5 \times 5 + 1 & 2 \times 6 + 1 & 1 \times 3 + 1 \\ \end{array}$ Thus, 5 does not fit in the series and should be replaced
- by 4.14. (a) The succeeding numbers are obtained by dividing the preceding numbers by 4. Therefore, the number 386 does not fit in the series and must be replaced by 384.
- 15. (c) There are two series in the given series :

I.

II. 11 20 40 74

$$\times 2 - 2 \times 2 - 2 \times 2 - 2$$

Hence the wrong term is 40

Hence the wrong term is 40.

16. (d) Population of village B in $2014 = 5000 \times \frac{16}{13} \approx 6150$

Population of village B in $2015 = 6150 \times \frac{110}{100} \approx 6750$ Population below poverty line = 52% of 6750 ≈ 3500

17. (a) Population of village D in $2014 = 9,000 \times \frac{17}{15} = 10,200$

Population of village D in $2016 = 10,200 \times \frac{110}{100}$ = 11, 220

Population of village G in 2016 = 9,000 × $\frac{95}{100}$ = 8,550

:. Total population of village D and G in 2016 = 11,220+8,550=19,770

18. (d) Population of village F below poverty line

$$= 55000 \times \frac{13}{100} \times \frac{49}{100} \approx 3500$$

19. (c) Population of village F in 2014

-

$$= 1520 \times \frac{100}{38} \times \frac{13}{8} = 6500$$

20. (b) Population of village C below poverty line

$$= 2000 \times \frac{38}{100} = 760$$



Population of village E below poverty line

Population of village E below poverty line

$$= \frac{2000}{8} \times 18 \times \left(\frac{46}{100}\right) = 2070$$

$$\therefore Required ratio = \frac{760}{2070} = 76:207$$
24. (a) $1 = \frac{15}{\sqrt{8}} + \frac{9}{\sqrt{8}} - 11\sqrt{3}$

$$BC = \frac{760}{2070} = 76:207$$
24. (b) The least cost of somaling one unit is 0 as it is obvious from table A & B that
BC = \frac{1}{2000} AE = \frac{1}{2070} - AAC
(c) $3 = 0 \text{ which is minimum & AC = -3AB, Cost = 284.5$
(c) $AAB, Cost = 29.52$ which is least as lone any refinery to AAB = 05.2
(c) $AAB, Cost = 0 +95.2 = 95.2$
(c) $AAB, Cost = 0 +95.2 = 95.2$
(c) $AAB, Cost = 0 +95.2 = 95.2$
(c) $AAB, Cost = 29.52$
(c) $AAB, Cost = 0 +95.2 = 95.2$
(c) $AB = AAB = -311.1 \text{ which is least as loast as loast as loast as loast cost from BB $\rightarrow AAA = -311.1 \text{ which is least as loast ost from BB $\rightarrow AAA = -31.1 \text{ which is least as loast a$$$



34.

 $\therefore \text{ Bhuvan's salary} = ₹ \frac{2x}{5}$

Chandra's salary =
$$\mathbf{\overline{\xi}} = \frac{2x}{5} \times \frac{7}{9} = \frac{14x}{45}$$

: Anil : Bhuvan : Chandra =
$$x : \frac{2x}{5} : \frac{14x}{45} = 45 : 18 : 14$$

 \therefore Bhuvan's salary

$$= \mathbf{R} \left[\frac{18}{(45+18+14)} \times 77000 \right] = \mathbf{R} 18000$$

35. (c) Part of the tank filled in an hour

$$= \frac{1}{12} - \frac{1}{20} = \frac{5-3}{60} = \frac{1}{30}$$

Hence, the tank will be filled in 30 hours

36. (b) Speed of the train =
$$132 \text{ km/h} = \frac{132 \times 5}{18} \text{ m/s}$$

Distance = $(110 + 165) = 275 \text{ m}$

Time required to cross the railway platform

$$=\frac{275\times18}{132\times5}=7.5\,\mathrm{s}$$

37. (a) 15 W = 10 M

Now,
$$5W + 4M = 5W + \frac{4 \times 15}{10} W = 5W + 6W = 11 W$$

Now, 15 women can complete the project in 55 days, then 11 women can complete the same project in

$$\frac{55 \times 15}{11} = 75 \, \text{days}$$

38. (a) Let the present ages of Ashu's mother and that of Ashu be x and y, respectively.

Then, (x-5) = 3(y-5) or x-5 = 3y-15or x-3y = -10 ...(i) and (x+5) = 2(y+5)And x+5 = 2y+10 or x-2y=5 ...(ii) From (i) and (ii), we have x = 35 and y = 15Hence, the present age of Ashu = 15 years

39. (a) Volume of the conical flask = Volume of the cylindrical flask up to the required height (x) cm

$$\frac{1}{3}\pi a^2 h = \pi p^2 \times x \implies x = \frac{ha^2}{3p^2} \text{ cm}$$

40. (c) Let the sum = Rs. x and original rate = y % per annum then, New rate = (y+3)% per annum

$$\therefore \frac{x \times (y+3) \times 2}{100} - \frac{x \times y \times 2}{100} = 300$$
$$xy + 3x - xy = 15000$$

$$\therefore x = 5000 \qquad \text{Thus, the sum} = ₹5000$$

Solution (41-45) :



41. (d) 42. (a) 43. (b) 44. (c) 45. (b)

Solution (46-48):

weapons hidden in town \rightarrow white black yellow red ... (a) ready weapons for attack \rightarrow grey indigo red green ... (b) hidden for own safety \rightarrow silver grey violet white ... (c) own town under attack \rightarrow violet blue indigo black ... (d) Using (a) and (b), we apons \rightarrow red Using (a) and (c), hidden \rightarrow white Using the just found codes and equations, (a) and (d), town \rightarrow black in \rightarrow yellow (b) and (d), attack \rightarrow indigo (c) and (d), own \rightarrow violet (b) and (c), for \rightarrow grey From (b), ready \rightarrow green From (c), safety \rightarrow silver From (d), under \rightarrow blue 46. (c)47. (a)

48. (e) 'black' and 'yellow' means 'town' and 'in' respectively. Pink is a new colour, so new word for 'pink' is 'risk'.

Solution (49-50):

The information can be reproduced as follows:

Karan > Rahul > Dana > Sudha = Parul > Abhishek > Bharat 49. (d)

50. (c)

(51-55):



55. (a) money
$$\Rightarrow$$
 fu
more \Rightarrow re or qi
The code for 'matters' may be 'bu'.



- 61. (c) A and E person facing opposite to centre.
- 62. (d) B, because A is facing opposite to centre.
- 63. (b) G, because E is facing opposite to centre.
- 64. (e) It is either third to left or fourth to right.
- 65. (c) Two (C and E) will remain unchanged.
- 66. (c) B < D...(i), E ≤ T ...(ii), T ≥ P(iii), P>B...(iv) From
 (i) and (iv), we get, P > B < D ⇒ no conclusion. But the exhaustive possibilities are P > D, P = D and P < D. Hence either I or II is true.
- 67. (e) $E \ge F$...(i), $G \le H$...(ii), H = E ...(iii), G > K ...(iv) From (ii) and (iv), we get, $H \ge G > K \Longrightarrow H > K$. Hence I is true. From (i) and (iii), we get, $H = E \ge F \Longrightarrow H \ge F$. Hence, II is true.
- 68. (a) $P \le Q$...(i), N = M(ii), M > R...(iii), $R \ge P$ (iv) From (ii), (iii) and (iv), we get, $N = M > R \ge P$ $\Rightarrow N > P$ or P < N. Hence I is true.

From (ii), (iv) and (i), we get, $M > R \ge P \le Q \implies$ No conclusion about the relationship between M and Q can be established.

- 69. (b) $D < T ...(i), E \le V ...(ii), F \ge T ...(iii), E < D ...(iv)$ Therefore, $V \ge E < D < T \le F$ From conclusion I. $D \le V ...$ (False) From conclusion II. D < F ... (True) Hence, only conclusion II is true.
- 70. (d) $T \ge U...(i), U \le W...(ii), V < L...(iii), W < V...(iv)$ Therefore, $T \ge U \le W < V > L$ From conclusion I. V > T ...(False) From conclusion II. L = W ... (False) Hence, neither conclusion I nor II is true.
- 71. (e) Here, none of the condition is applied, so the coding is done as follows

 $\therefore \text{ Code for NABAQE} \Rightarrow 3\$2\$4\#$

72. (d) When no condition is applied, the coding is done as follows

F	W	Ζ	Е	R	А
\downarrow	\downarrow	\downarrow	\downarrow	\downarrow	\downarrow
5	D	1	#	7	\$

But here the second and third letters are consonants, therefore condition (iii) is applied here. As condition (iii) is applied here, both the seond and third letters are to be coded as the code for the third letter.

F	W	Ζ	Е	R	А	
\downarrow	\downarrow	\downarrow	\downarrow	\downarrow	\downarrow	
5	1	1	#	7	\$	

 $\therefore \text{ Code for FWZERA} \Rightarrow 511\#7\$$

A and E is not facing centre. Rest of all facing centre.

F B A

 (\mathbb{C})

Η	U	В	D	Ι	Ν
\downarrow	\downarrow	\downarrow	\downarrow	\downarrow	\downarrow
©	6	2	8	9	3

- 74. (b) When no condition is applied, the coding is done as follows.

But here the first letter is a vowel and the fourth letter is a consonant, therefore condition (ii) is applied. As condition (ii) is applied here, both the first and the fourth letters are to be coded as the code for the vowel.

: Code for EMIRDP \Rightarrow #%9#8 \bigstar

- 75. (d) When no condition is applied, the coding is done as follows.
 - OREDHM
 - $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$
 - (a) 7 # 8 © %

But here the first letter is a vowel and the fourth letter is a consonant, therefore condition (ii) is applied. As condition (ii) is applied here, both the first and fourth letters as to be coded as the code for the vowel.

\therefore Code for OREDHM $\Rightarrow @7#@@\%$

(Qs. 76-80) : According to the given information, the sitting arrangement of eleven students in a row of a class facing the teacher is as following :

E ↑	ŀ	K	A	J ↑	ŀ	3	ļ	G	Ì	0	ŀ	ł	I	1	F
Γ				1											

- 76. (b) There are seven person which are sitting between E and H. B is in the midway of them.
- 77. (c) H is not the immediate neighbour of D and F.
- 78. (e) To get the final arrangement, we require all the statements.
- 79. (b) F is at the extreme end.

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80. (a) A, J and B are at the left of I.