[®] NATIONAL TALENT SEARCH EXAMINATION (NTSE-2021) STAGE-1 STATE : RAJASTHAN PAPER : MAT

Date: 13/12/2020

Max	Marks: 100	SOLUTI	ONS ΤΙ	me allowed: 120 mins
	Instruction : In each of the mark (?). This term is one of	ne Questions Nos. 1 to 8 a letter of the four alternatives given ur	series is given with one tern nder it. Find the correct alte	n missing shown by questions rnative.
1.	R, V, A, G, N, ?			
	(1) U	(2) V	(3) W	(4) X
Ans.	(2)			
Sol.	Difference between the ter	rm:+4,+5,+6,+7,+8.		
2.	AC, FH, KM, PR, ?			
	(1) UX	(2) TV	(3) UW	(4) VW
Ans.	(3)			
Sol.	Difference between the ter	rm : +5, +5, +5		
3.	NZ, OY, PX, QW, RV, ?			
	(1) FS	(2) UF	(3) TU	(4) SU
Ans.	(4)			
Sol.	Difference between the ter	m : +1 and -1		
4.	AEI, EIO, IOU, OUA,			
	(1) UXB	(2) UAE	(3) MRQ	(4) QVR
Ans.	(2)			
Sol.	Pattern based on vowels cy	/licity.		
5.	ABZ, DFX, GJV, JNT, ?			
	(1) MRR	(2) QRQ	(3) MRQ	(4) OVR
Ans.	(1)			
Sol.	Difference between the ter	m : +3; +4 & −2.		
6.	COVIDNINETEEN, VIDNI	NETEENCO, DNINETEENCO	VI,?	
	(1) IDNINETEENCOV		(2) NINETEENCOVID	
	(3) INETEENCOVIDI		(4) INETEENCOVIDN	
Ans.	(4)			
Sol.	First two letters written in I	ast to get the next term.		
7.	RADIUS, RADSIU, RADS	UI, RADUIS, ?		
	(1) RASDIU	(2) RDAIUS	(3) RADUSI	(4) RAIDUS
Ans.	(3)			
Sol.	RADIUS, RADSIU, RA	DSUI, RADUIS, RADUSI		

8.	H2J, K3N, O4S, ?			
	(1) T5Y	(2) T5Z	(3) T5X	(4) T5A
Ans.	(1)			
Sol.	Difference between 1 st ter	m:+3,+4,+5.		
	Difference between 2 nd te	rm : +1, +1, +1.		
	Difference between 3 rd ter	m: +4. +5. +6.		
	Instruction: In each of th	e Ouestion Nos. 9 to 16 a numb	er series is given with one ter	m missing shown by question
	mark (?). This term is one	of the four alternatives given u	nder it. Find the correct alter	native
9.	2, 3, 5, 8, 13, ?, 34	Ŭ		
	(1) 23	(2) 21	(3) 20	(4) 22
Ans.	(2)		()	
Sol.	Fibonacci series			
	2 + 3 = 5; $3 + 5 = 8;$			
	5 + 8 = 13; $8 + 13 = 2$	1:		
	13 + 21 = 34	,		
10.	3, 8, 15, 24, 35, ?			
	(1) 52	(2) 50	(3) 48	(4) 46
Ans.	(3)			
Sol.	All term is the form of (n^2)	– 1).		
11.	8, 24, 28, 140, 146, 1022	2. 1030. ?		
	(1) 1040	(2) 8240	(3) 10300	(4) 9270
Ans.	(4)	(-)	(-)	
Sol.	Pattern is : $\times 3$, $+4$, $\times 5$.	+6, ×7, +8, ×9.		
12.	2, 9, 3, 28, 4, 65, 5, ?	-, , -, -		
	(1) 137	(2) 126	(3) 118	(4) 115
Ans.	(2)			
Sol.	Alternate two series.			
	In one series : $+1$, $+1$, $+7$	1 {Difference}		
	In other series : $2^3 + 1$, 3	3 + 1, 4 ³ + 1		
13.	4, 17, 290, ?			
	(1) 84100	(2) 84101	(3) 84102	(4) 84103
Ans.	(2)			< ,
Sol.	$4^2 + 1 = 17; 17^2 + 1 =$	290; $290^2 + 1 = 84101$.		
14.	3, 3, 4.5, 9, 22.5, ?			
	(1) 27.3	(2) 48	(3) 55	(4) 67.5
Ans.	(4)			
Sol.	Pattern is : $\times 1$, $\times 1.5$, $\times 2$, ×2.5, ×3.		
15.	4, 5, 12, 39, 160, ?			
	(1) 225	(2) 695	(3) 805	(4) 790
Ans.	(3)			
Sol.	Pattern is : $\times 1 + 1$, $\times 2 + 2$, $\times 3 + 3$, $\times 4 + 4$, $\times 5 + 5$,			

16.	2, 3, 7, 16, 32, ?	?			
	(1) 57	(2) 39	(3) 56	(4) 55	
Ans.	(1)				
Sol.	Pattern is : +1, -	+4, +9, +16, +25.			
	Instruction: Qu statements as tru which of the give	uestion Nos. 17 to 19 has a sta e even it seems to vary from co n conclusions logically follow(s	tements. and two conclusion ommonly known facts. Read s) the given statement even d	s I and II. You have to assume th all the conclusions carefully and isregarding,commonly known f	ne given 1 decide facts.
17.	Statement : Un	nemployment is one of the mai	n reason for the poverty of th	ne country.	
	Conclusions:	(I) To end poverty, it is require	ed to create employment opp	portunities.	
		(II) All the people in the coun	try are unemployed.		
	(1) Only conclusi	ion I follows.	(2) Only conclus	ion II follows.	
	(3) Both conclus	ions I and II follows.	(4) Neither conc	lusion I nor II follows.	
Ans.	5. (1)				
Sol.	Clearly only cond	clusion I follows.			
18.	Statement : Mo	orning walk is good for health.			
	Conclusions :	(I) All healthy people go for mo	orning walk.		
		(II) Evening walk is harmful.			
	(1) Only conclusi	ion I follows.	(2) Only conclus	ion II follows.	
	(3 Both conclusion	ons I and II follows.	(4) Neither conc	lusion I nor II follows.	
Ans.	(4)				
Sol.	Clearly, neither c	conclusion I nor II follows.			
19.	Statement : An	imal live on Oxygen.			
	Conclusions :	(I) Plants do not live on Oxyge	en.		
		(II) Anything that needs Oxyg	en is bound to be animal.		
	(1) Only conclusi	ion I follows.	(2) Only conclus	ion II follows.	
	(3) Both conclus	ions I and II follows.	(4) Neither conc	lusion I nor II follows.	
Ans.	(4)				
Sol.	Clearly, neither d	coclusion I nor II follows.			

20. Which one of the following Venn-diagram correctly represents the relation between currency, Rupee and Dollar?





Ans. (3)



Which one of the following Venn-diagrams correctly represents the relation between Mumbai, Madhya Pradesh and 21. Bhopal?



22. Which one of the following Venn-diagrams correctly represents the relation between Herbivorous, Lions and Animals?



Ans. (1)



In a coded language, ONLINE is written as LNOENI and SILENT is written as LISTNE; then in the same coded 23. language, LISTEN will be written as.

(1) ILSNET (2) SILENT	(3) SILNET	(4) SILETN
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Ans. (3)

- Sol. Word divide into 2 half & then reverse.
- In a coded language, AVOID is written as 73564 and CHINA is written as 28617; then in the same coded language, 24. COVID will be written as.

(1) 53246 (2) 25364 (3) 25346 (4) 25634

Ans. (2)

Sol. Letters corresponding digit is code.

Direction (Q.25 to Q.27) : Read the following informations carefully and answer question number 25 to 27 based upon it.

In a coded language, 461 measn WHERE ARE YOU; 169 means 'YOU ARE GOOD' and 8652 means 'EXAMS ARE NOT BAD'.

25.	What is the code for 'NOT'?				
	(1) 6	(2) 9	(3) 5	(4) 1	
Ans.	(3)				
Sol.	Words corresponding digit is code.				
26.	What is the code for 'GOOD'?				
	(1) 9	(2) 4	(3) 6	(4) 1	
Ans.	(1)				
Sol.	Words corresponding digit is code.				
27.	How will 'WHERE ARE GOOD EXAMS' will be written in coded language?				

- (1) 1654 (2) 4619 (3) 1945 (4) 4698
- Ans. (4)
- Sol. Words corresponding digit is code.
- 28. The two positions of a single die are given below. Which digit will be at the face opposite to the face having digit 2.



Ans. (2)



(1) 3

Clearly, opposite to 2 is 4.

29. The two position of a single cube are shown below. The six faces of this cube are coloured with Green, Yellow, Red, Black, Pink and White. If Green coloured face is at top then what will be the colour at bottom's face?



Sol. Clearly, Green is opposite to white.

Instruction: In Question numbers 30 to 33, find the correct mirror image of the given figure, when mirror is placed on right side of the figure.

30. Question Image

Answer Image

34. Which of the answer figures will complete the matrix figure? Question figure

Ans. (2)

- Sol. By observation
- 35. Which of the answer-figures will complete the matrix-figure?

37.	How many numbers from 10 to 200 are there which are divisible by 2 as well 7?				
	(1) 13	(2) 14	(3) 15	(4) 16	
Ans.	(2)				
Sol.	If any number divisible by	2 & 7 then it should divisible by	y 14.		
	So, from 10 to 200 divisible	e by numbers.			
	$=\frac{200}{14}=14.28.$				
	\therefore Total numbers = 14				
	Instruction : In each of the is different. Select the odd	e Question numbers 38 to 43, tl one.	hree alternatives are alike in a	a certain way but the rest one	
38.	(1) Chalk	(2) Pen	(3) Pencil	(4) Map	
Ans.	(4)				
Sol.	Clearly, all are used to write	e except Map.			
39.	(1) Taxi	(2) Bus	(3) Car	(4) Tanker	
Ans.	(4)				
Sol.	Clearly, all are mode of trai	nsport except Tanker.			
40.	(1) June	(2) August	(3) April	(4) November	
Ans.	(2)				
Sol.	Clearly, all months have 30) days except August.			
41.	(1) Africa	(2) Europe	(3) Australia	(4) England	
Ans.	(4)				
Sol.	Clearly, All are continents e	except England.			
42.	(1) Hand	(2) Leg	(3) Ear	(4) Neck	
Ans.	(4)				
Sol.	Clearly, Neck is different fr	om others as all are in pairs oth	ner than Neck.		
43.	(1) Cone	(2) Traingle	(3) Rectangle	(4) Circle	
Ans.	(1)				
Sol.	Clearly, all are figure except cone are in 2D and cone is 3D.				

44. Identify the missing term (?) in the following figure.

Ans. (2)

45. Identify the missing term (?) in the following table.

	1112131415162343957?				
	(1) 87	(2) 85	(3) 77	(4) 75	
Ans.	(3, 4)				
Sol.	$14 \times 2 + 11 = 39$				
	$15 \times 3 + 12 = 57$				
	$16 \times 4 + 13 = 77$; so ar	nswer is option (3)			
	And in row ends numbers	sum divide by 2 which will give	you option (4)		
46.	Ishant is taller than Sanja is shortest in height?	y, Ashok is taller than Ishant, Sa	achin is not as taller as Asho	k but taller than Ishant. Who	
	(1) Sanjay	(2) Sachin	(3) Ishant	(4) Can't be determined	
Ans.	(1)				
Sol.	Ashok > Sachin > Ishan	t > Sanjay.			
	Clearly Sanjay is shortest.				
47.	In a class of 39 students, Mukesh's rank is 7 more than Gautam's rank. If Gautam's rank from end is 17 th , then what will be the rank of Mukesh from beginning?				
	(1) 13 th	(2) 14 th	(3) 15 th	(4) 16 th	
Ans.	(4)				
Sol.	[39 - (17 + 7)] + 1 = 16	D.			
48.	From 14 December, 2020, morning 4 O' clock to 15 December, 2020, morning 4 O' clock. How many times, the minute hand & hour hand of a clock will overlap.				
	(1) 21	(2) 22	(3) 23	(4) 24	
Ans.	(2)				
Sol.	Minute hands & Hr hand	overlap 22 times in 24 hrs.			

Questions (49-53)

Instruction: The following questions are based on the diagram given below, Study the diagram carefully and answer the questions based upon it.

In the diagram

- (i) Circle represent unemployed
- (ii) Square represent Hard working
- (iii) Triangle represent Rurals
- (iv) Rectangle represents intelligents.

54.	As clay is related to potter	y in the same way gold is relate	ed to which of the following.	
	(1) Woman	(2) Gold Smith	(3) Ornaments	(4) Metal
Ans.	(3)			
Sol.	Clay used to make pottery	in same way gold used to mak	e Ornaments.	
55.	As bird is related to kite, in	n the same way fish is related to	which of the following.	
	(1) Crow	(2) Submarine	(3) Boy	(4) Thread
Ans.	(2)			
Sol.	Bird, Kite \rightarrow Sky, Fish, Sul	bmarine \rightarrow Water		
56.	As 'gram' is related to 'mas	s' in the same way, 'Centimeter	r is related to	
	(1) Area	(2) Volume	(3) Density	(4) Length
Ans.	(4)			
Sol.	$Gram \rightarrow Mass$			
	Centimeter \rightarrow Length			
	Questions (57-61)			
	Instruction : Study the in	nformations given below carefu	lly and answer the questions	based on it.
	All the faces of a solid cub	e are coloured with red colour	and then cut it into 64 small	l equal cubes
57.	How many cubes are such	with only one face is coloured	?	
	(1) 12	(2) 24	(3) 30	(4) 36
Ans.	(2)			
Sol.	In the center of each face.			
58.	How many cubes are such	with two opposite faces are red	d coloured?	
	(1) 0	(2) 4	(3) 6	(4) 8
Ans.	(1)			
Sol.	No such cube.			
59.	How many cubes are such	with two adjacent faces are rea	d coloured and the remainin	g faces are not coloured?
	(1) 8	(2) 12	(3) 16	(4) 24
Ans.	(4)			
Sol.	Two in center of each edge	2.		
60.	How many cubes are such	with three faces are red colour	ed?	
	(1) 0	(2) 6	(3) 8	(4) 12
Ans.	(3)			
Sol.	Cube at each corner.			
61.	How many cubes are such	n with any of the face is not cold	oured?	
	(1) 6	(2) 8	(3) 10	(4) 12
Ans.	(2)			
Sol.	$(n-2)^3 = (4-2)^3 = 8$			
62.	In numbers 5 8 1 3 2 7 6 4	, how many digits are such with	h at the same distance from	the beginning as if arranged
	in descending order?			
	(1) Three	(2) Two	(3) One	(4) None of these
Ans.	(4)			
Sol.) 5 8 I 3 2 / 6 4) 8 7 6 5 4 3 2 1			

Direc	C(0, 03-05) : Each L	based upon the following live, th	ree-aigit numbers.	
		386, 752, 961	, 573, 839	
and Tens place digit of greatest number?			be the sum of unit place digit	
	(1) 7	(2) 11	(3) 12	(4) 14
Ans.	(2)			
Sol.	New number			
	683, 257, 169, 375, 938			
	So largest + 938			
	So 3 + 8 = 11			
64.	If unit place digit and Tens	s place digit of every number is i	interchanged then what will be	e the second greatest number.
	(1) 893	(2) 863	(3) 961	(4) 725
Ans.	(1)			
Sol.	Newnumber			
	368, 725, 916, 537, 893			
65.	If the digits of every num what will be the biggest n	bers are rearranged in such a w umber out of them?	vay that it form smallest possi	ble number by the digits then
	(1) 368	(2) 527	(3) 691	(4) 389
Ans.	(4)			
Sol.	New numbers			
	368, 257, 169, 357, 389			
66.	In the arithmetic expressi	on given below, if the digit 4 ar	nd 3 are interchanged then w	hat will be the solution?
		4 × 2 + 8	- 3 ÷ 2	
	(1) 10	(2) $\frac{10}{10}$	(3) 18	(1) 12
	(1) 10	(2) 3		(1) 12
Ans.	(4)			
Sol.	$3 \times 2 + 8 - 4 \div 2$			
	6 + 8 - 2			
	12			
67.	In the arithmetic expressi	on given below, if the sign $ imes$ a	nd ÷ are interchanged the wh	at will be the solution?
		8 × 3 – 2 -	+ 3 ÷ 3	
	29			23
	(1) $\frac{23}{3}$	(2) 9	(3) 23	(4) $\frac{13}{3}$
Δns	(1)			
Sol.	$8 \div 3 - 2 + 3 \times 3$			
	$\frac{8}{3} - 2 + 9$			
	$\frac{8-6+27}{3} = \frac{29}{3}$			

- After interchanging the sign + and \div and also interchanging the digits 2 and 3, which of the following is given with 68. correct solution?
- (1) $4 \times 3 + 8 3 \div 2 = 17$ $(2) 4 + 3 \times 8 - 3 \div 2 = 17$ (3) $4 + 3 \times 8 \div 2 \times 3 = 17$ $(4) 4 + 3 \times 8 + 2 - 3 = 17$ Ans. (2) Sol. (1) $4 \times 2 \div 8 - 2 + 3$ (2) $4 \div 2 \times 8 - 2 + 3$ (3) $4 \div 2 \times 8 + 3 \times 2$ (4) $4 \div 2 \times 8 + 3 - 2$ $1 + 1 = 2 \neq 17$ $2 \times 8 + 1 = 17$ $16 + 6 = 22 \neq 27$ $\frac{16}{3} - 2 \neq 17$

If 50% books in a library are in English language and $\frac{7}{10}^{\text{th}}$ of the rest in Hindi language which of the following 69.

shaded part approximately represent books in Hindi language.

Ans. (2)

Sol. Clearly \rightarrow 50% Represent English

Rest is 50% and $\frac{7}{10}^{\text{th}}$ is Hindi

So i.e. 35 so clearly.

Direction (Q. 70-72) : Instruction : In an open ground Ranu, Shaifu, and Charvi are standing at the corner of an equilateral triangle. Study the questions 70 to 72 carefully which are based on the following diagram and select the correct answer.

From the positions shown in above figure, Ranu, Shaifu and Charvi run along the sides of equilateral triangle in 70.

clockwise direction for $1\frac{1}{2}$ sides of triangle. Now which of the following statements is true?

- (1) Charvi is in West of Shaifu.
- (3) Ranu is in South-West of Shaifu.

- (2) Ranu is in South-West of Charvi.

(4) Shaifu is in North-East of Ranu.

- Ans. (2)
- Sol. New positions will be

- 71. From the positions shown in above figure, Ranu, Shaifu and Charvi run along the sides of equilateral triangle in anticlockwise direction for $1\frac{1}{2}$ sides of triangle. Now shaifu is in which direction of Ranu?
- (1) In East (2) In South (3) In North-West (4) In North-East Ans. (3)
- Sol. New diagram.

72. From the position shown in above figure, Ranu, Shaifu and Charvi run along the sides of equilateral triangle in clockwise direction for 1 side of triangle. Now Charvi is in which direction of Shaifu?

- Ans. (4)
- Sol. New diagram

73. In this question, ' Δ ' means "Greater than" ' \Box ' means "Less than", ' ϕ ' means "equal to", ' \oplus ' means "not equal to". If C Δ A, A \Box B, D ϕ B and B \oplus C, then choose the correct option in the following.

	If $C\Delta A$, $A\Box B$, $D\phi B$ and $B\oplus C$, then choose the correct option in the following.				
	(1) D□C	(2) DΔC	(3) A∆C	(4) B⊕D	
Ans.	(Bonus)				
Sol.	$\Delta \rightarrow >$				
	$\Box \rightarrow <$				
	$\varphi \to =$				
	$\oplus \rightarrow \neq$				
	C∆A, A□B, D∳B, B⊕C				
	$C > A, A < B, D = B, B \neq C$				
	options are not available.				

74. Darshan walked 4 meters in East, then he turned right and walked 7 meters, then he turned left and walked 5 meters again he turned left and walked 7 meters. Then finally before stopping he turned right and walked 3 meters. How far is Darshan from his initial point?

(1) 10 meter (2) 11 meter (3) 12 meter (4) 13 meter

Ans. (3)

Direction (Q.75 to Q.80) : The following table shows the record of surgery done in a hospital. This record shows the data from January to July. Study the table carefully and answer the following questions.

Month	Total successful surgery	Total unsuccessful Surgery
January	5	3
February	4	4
March	5	2
April	6	3
May	4	2
June	3	3
July	2	4

75. As per the above table, what is the percentage of successful surgery?

(1) 32%	(2) 29%	(3) 58%	(4) 21%
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Ans. (3)

Sol.	Month	Total successful surgery	Total unsuccessful Surgery
	January	5	3
	February	4	4
	March	5	2
	April	6	3
	May	4	2
	June	3	3
	July	2	4
	Total	29	21

 $\frac{29}{50} \times 100 = 58 \%$

76. In which month the percentage of successfull surgery was highest in the hospital?

(1) January (2) April (3) July (4) March
Ans. (4)
Sol. January
$$\rightarrow \frac{5}{8} \times 100 = 62.5\%$$

February $\rightarrow \frac{4}{8} \times 100 = 50\%$
March $\rightarrow \frac{5}{7} \times 100 = 71.4\%$
April $\rightarrow \frac{6}{9} \times 100 = 66.6\%$
June $\rightarrow \frac{3}{6} \times 100 = 66.6\%$
June $\rightarrow \frac{3}{6} \times 100 = 50\%$
July $\rightarrow \frac{2}{6} \times 100 = 33.3\%$
77. In which month the percentage of unsuccessfull surgery was highest in the hospital?
(1) July (2) June (3) February (4) March
Ans. (1)
Sol. January $\rightarrow \frac{3}{8} \times 100 = 37.5\%$
February $\rightarrow \frac{4}{8} \times 100 = 28.5\%$
April $\rightarrow \frac{3}{9} \times 100 = 33.3\%$
May $\rightarrow \frac{2}{6} \times 100 = 33.3\%$
June $\rightarrow \frac{3}{6} \times 100 = 33.3\%$
June $\rightarrow \frac{3}{6} \times 100 = 33.3\%$
June $\rightarrow \frac{3}{6} \times 100 = 50\%$
June $\rightarrow \frac{3}{6} \times 100 = 50\%$

78. If a and b are natural numbers. If a + b = 2020 then what will be the value of $(-1)^a + (-1)^b$? (3) 1010 OR – 1010 (1) 1 OR – 1 (2) 2020 OR – 2020 (4) 2 OR – 2 Ans. (4) Sol. a + b = 2020So a can be even or odd and b can be even or odd. But from a and b if a is even then b is also even in the same way if a is odd then b is also odd. $(-1)^{\text{even}} + (-1)^{\text{even}} = 2$ $(-1)^{\text{odd}} + (-1)^{\text{odd}} = -2$ 79. How many integers are in between 1 and 100 which satisfying all the following conditions? (i) After divided by 3, remainder is 1 (ii) After divided by 5, remainder is 1 (iii) After divided by 7, remainder is 0 (1) 0 (2) 1 (3) 2 (4) 3 Ans. (2) Sol. They should be perfectly divided by 7 So 7, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84, 91, 98

Now number should be 5n + 1 so we left with 21, 56, 91

Now it also be 3K + 1 so clearly 91.

80. A square is divided into four identical rectangles. The perimeter of each of these rectangles is 20 cm. What is the perimeter of the square?

81.	What is the difference between the biggest 3-digit number having 8 as tens place and divisible by 4 and smallest 3				
	digit number having 8 as to	ens place and divisible by 4?			
	(1) 888	(2) 808	(3) 708	(4) 788	
Ans.	(2)				
Sol.	988 - 180 = 808				
	Questions (82-86) :				
	Instruction : In each of the side of sign (: :) and one nu given alternatives having the secret element is the secret element element is the secret element	ne following questions, there is a umber is given on the right side he same relationship with the n	a certain relationship betwee of sign(::) while another nur umber as the numbers of the	en two given numbers on left mber is to be found from the given pair bear. Choose the	
00					
82.	20 : 11 : : 102 : ?		$\langle 2 \rangle \langle 1$	(4) 0/	
•	(1) 49	(2) 52	(3) 61	(4) 96	
Ans.	(2)				
Sol.	$\frac{20}{2} + 1 = 11$				
	So $\frac{102}{2} + 1 \Rightarrow 52$				
83.	6:35::7:?				
	(1) 48	(2) 42	(3) 34	(4) 13	
Ans.	(1)				
Sol.	$6^2 - 1 = 35$				
	So $7^2 - 1 = 48$				
84.	9:162::8:?				
	(1) 96	(2) 112	(3) 128	(4) 162	
Ans.	(3)				
Sol.	$9^2 \times 2 = 162$				
	$8^2 \times 2 = 128$				
85.	64 : 100 : : 144 : ?				
	(1) 121	(2) 169	(3) 180	(4) 196	
Ans.	(4)				
Sol.	$8^2 \rightarrow 64$				
	$(8+2)^2 \rightarrow 100$				
	$12^2 \rightarrow 144$				
	$(12 + 2)^2 \rightarrow 196$				
86.	0.01 : 0.0001 : : 0.05 : ?				
	(1) 0.00025	(2) 0.0025	(3) 0.025	(4) 0.25	
Ans.	(2)				
Sol.	$(0.01)^2 = 0.0001$				
	$(0.05)^2 = 0.0025$				
	(

	Arrange the following in a	meaningful sequence :		
	(1) Crop	(2) Root	(3) Stem	(4) Seed
	(5) Flower	()		
	(1) 4, 1, 2, 3, 5	(2) 2, 4, 3, 5, 1	(3) 2, 3, 4, 5, 1	(4) 4, 2, 3, 5, 1
Ans.	(4)			
Sol.	Seed, Root, Stem, Flow	ver, Croop		
	4 2 3 5	1		
88.	Arrange the following in m	neaningful sequence :		
	(1) Rain	(2) Cloud	(3) Ocean	(4) River
	(5) Monsoon			
	(1) 5, 2, 1, 4, 3	(2) 3, 1, 2, 4, 5	(3) 1, 5, 2, 4, 5	(4) 2, 5, 1, 4, 3
Ans.	(1)			
Sol.	Monsoon, Cloud, Rain, R	iver, Ocean		
	5 2 1	4 3		
	Questions (89-92) :			
	Instruction : Read the in	nformation given below and ans	wer the question numbers 8	9 to 92 based on it.
	Kriti and Amit are two chi	ildren of Smt and Shri Mittal. A	mit, married to Ananya, whe	o is daughter of Smt. Goyal.
	Shri Goyal had married to	Rita. Sonu and Rakesh are chil	dren of Sumer and Rita. Urvi	and Poorvi are daughters of
80	Mhat is the surpame of P	akosh?		
07.	(1) Coval	(2) Mittal	(3) Amit	(1) Kriti
Ans	(1) Obyan			
AIIS.	(1)			
Sol.	\frown	Sumer	1	
	Rita			
	Ť			
		Amit	Kirti	
	(Sonu) Rakesh	Ananya		
	\smile			
			Poorvi	
	Rakesh is son of Rita & Su	umer goval.		
	So Surname is goval.	5.5		
90	What is the relation of Su	mer with Poorvi?		
,	(1) Brother	(2) Lincle	(3) Maternal Grand Father	(4) Father
Δns	(3)			
Sol	Sumer is father of ananya	who is mother of poorvi		
501.	So Sumor is matornal ara	nd father of poorvi		
_	What is the relation of Lin			
01			(2) Auntu	(1) Doughtor
91.	(1) Sistor	(2) Nioco		
91.	(1) Sister	(2) Niece	(3) Aurity	
91. Ans.	(1) Sister(2)	(2) Niece	(3) Aunty	(4) Daugnier
91. Ans. Sol.	 (1) Sister (2) Urvi daughter of Amit & I 	(2) Niece Kirti is sister of Amit	(3) Aunty	

92.	What is the relation of So	nu with Shri Goyal?		
	(1) Sister	(2) Brother	(3) Son/Daughter	(4) Father
Ans.	(3)			
Sol.	Sonu is son of sumer goya	al.		
	Questions (93-95) :			
	Instruction : Read the se	equence given below and answe	er question number 93 to 95).
	7, 6, 3, 2, 3, 5, 4, 3, 5, 2	, 7, 6, 4, 5, 2, 3, 6, 2, 7, 5, 2,	5, 2, 3, 6, 5, 2, 6, 3, 7, 4, 2	2, 5
93.	How many times 5 is follo	wed by 2 but 4 does not occur	just before it?	
	(1) 1	(2) 2	(3) 4	(4) 5
Ans.	(3)			
Sol.	7, 6, 3, 2, 3, 5, 4, 3, 5, 2	, 7, 6, 4, 5, 2, 3, 6, 2, 7, 5, 2,	5, 2, 3, 6, 5, 2, 6, 3, 7, 4,	2, 5
94.	How many times 2 is follo	wed by odd numbers?		
	(1) 4	(2) 5	(3) 6	(4) 7
Ans.	(4)			
Sol.	7, 6, 3, 2, 3, 5, 4, 3, 5, 2	2, 7, 6, 4, 5, 2, 3, 6, 2, 7, 5, 2	2, 5, 2, 3, 6, 5, 2, 6, 3, 7, 4	, 2, 5
95.	How many times has num	ber 5 been used just before or a	after 4?	
	(1) 1	(2) 2	(3) 3	(4) 5
Ans.	(2)			
Sol.	7, 6, 3, 2, 3, 5, 4, 3, 5, 2	, 7, 6, 4, 5, 2, 3, 6, 2, 7, 5, 2,	5, 2, 3, 6, 5, 2, 6, 3, 7, 4,	2, 5
96.	What will be angle betwee	en minute hand and hour hand	of a watch at 12:30?	
	(1) 180°	(2) 150°	(3) 175°	(4) 165°
Ans.	(4)			
Sol.	$\left \frac{11}{2} \times \text{min ute} - 30 \times \text{hours}\right $			

as 12 hours means 0.

$$\left|\frac{11}{2} \times 30 - 30 \times 0\right| = 165^{\circ}$$

Questions (97-100) :

Instruction : Read the information given below carefully and answer the questions that follow:

A, B, C, D, E, F and G are seven students of a school, who are studying in seven different Classes V, VI, VII, VIII, IX, X and XI. Everyone of them likes a particular subject viz. English, Hindi, Physics, Chemistry, Mathematics, History and Geography. Students, Classes and subjects can always be in different order as given.

B likes History and does not study in Class VII. The one who likes English studies in Class IX. The one who studies in Class V, likes Chemistry. F likes Physics. Cis studying in Class VI and doesn't like Geography. E is studying in Class X and likes Mathematics. D likes Chemistry. G doesn't like English and G is not in Class VII or VIII. F is not in Class VII.

97. F is in which Class?

(1) VII	(2) IX	(3) XI	(4) Data inadequate

Ans.	(1)			
Sol.	$B \to History \to VIII$			
	$A \to English \to IX$			
	$D \rightarrow Chemistry \rightarrow V$			
	$F \rightarrow Physics \rightarrow VII$			
	$C \to Hindi \to VI$			
	$E \rightarrow Mathematics \rightarrow X$			
	$G \rightarrow Geography \rightarrow XI$			
98.	G is in which Class?			
	(1) VI	(2) VII	(3) XI	(4) IX
Ans.	(3)			
Sol.	$B \rightarrow History \rightarrow VIII$			
	$A \to English \to IX$			
	$D \rightarrow Chemistry \rightarrow V$			
	$F \rightarrow Physics \rightarrow VII$			
	$C \to Hindi \to VI$			
	$E \rightarrow Mathematics \rightarrow X$			
	$G \to Geography \to XI$			
99.	Which subject does A like?			
	(1) Hindi	(2) Geography	(3) English	(4) Chemistry
Ans	(2)			
7 (15)	(3)			
Sol.	$B \rightarrow \text{History} \rightarrow \text{VIII}$			
Sol.	$B \rightarrow \text{History} \rightarrow \text{VIII}$ $A \rightarrow \text{English} \rightarrow \text{IX}$			
Sol.	$B \rightarrow \text{History} \rightarrow \text{VIII}$ $A \rightarrow \text{English} \rightarrow \text{IX}$ $D \rightarrow \text{Chemistry} \rightarrow \text{V}$			
Sol.	$B \rightarrow \text{History} \rightarrow \text{VIII}$ $A \rightarrow \text{English} \rightarrow \text{IX}$ $D \rightarrow \text{Chemistry} \rightarrow \text{V}$ $F \rightarrow \text{Physics} \rightarrow \text{VII}$			
Sol.	$B \rightarrow \text{History} \rightarrow \text{VIII}$ $A \rightarrow \text{English} \rightarrow \text{IX}$ $D \rightarrow \text{Chemistry} \rightarrow \text{V}$ $F \rightarrow \text{Physics} \rightarrow \text{VII}$ $C \rightarrow \text{Hindi} \rightarrow \text{VI}$			
Sol.	$B \rightarrow \text{History} \rightarrow \text{VIII}$ $A \rightarrow \text{English} \rightarrow \text{IX}$ $D \rightarrow \text{Chemistry} \rightarrow \text{V}$ $F \rightarrow \text{Physics} \rightarrow \text{VII}$ $C \rightarrow \text{Hindi} \rightarrow \text{VI}$ $E \rightarrow \text{Mathematics} \rightarrow \text{X}$			
Sol.	$B \rightarrow \text{History} \rightarrow \text{VIII}$ $A \rightarrow \text{English} \rightarrow \text{IX}$ $D \rightarrow \text{Chemistry} \rightarrow \text{V}$ $F \rightarrow \text{Physics} \rightarrow \text{VII}$ $C \rightarrow \text{Hindi} \rightarrow \text{VI}$ $E \rightarrow \text{Mathematics} \rightarrow \text{X}$ $G \rightarrow \text{Geography} \rightarrow \text{XI}$			
Sol.	$B \rightarrow \text{History} \rightarrow \text{VIII}$ $A \rightarrow \text{English} \rightarrow \text{IX}$ $D \rightarrow \text{Chemistry} \rightarrow \text{V}$ $F \rightarrow \text{Physics} \rightarrow \text{VII}$ $C \rightarrow \text{Hindi} \rightarrow \text{VI}$ $E \rightarrow \text{Mathematics} \rightarrow \text{X}$ $G \rightarrow \text{Geography} \rightarrow \text{XI}$ Who studies in Class - 8?			
Sol.	(3) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow V$ $F \rightarrow Physics \rightarrow VII$ $C \rightarrow Hindi \rightarrow VI$ $E \rightarrow Mathematics \rightarrow X$ $G \rightarrow Geography \rightarrow XI$ Who studies in Class - 8? (1) B	(2) C	(3) A	(4) E
Sol. 100. Ans.	(3) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow V$ $F \rightarrow Physics \rightarrow VII$ $C \rightarrow Hindi \rightarrow VI$ $E \rightarrow Mathematics \rightarrow X$ $G \rightarrow Geography \rightarrow XI$ Who studies in Class - 8? (1) B (1)	(2) C	(3) A	(4) E
Sol. 100. Ans. Sol.	$B \rightarrow \text{History} \rightarrow \text{VIII}$ $A \rightarrow \text{English} \rightarrow 1X$ $D \rightarrow \text{Chemistry} \rightarrow \text{V}$ $F \rightarrow \text{Physics} \rightarrow \text{VII}$ $C \rightarrow \text{Hindi} \rightarrow \text{VI}$ $E \rightarrow \text{Mathematics} \rightarrow X$ $G \rightarrow \text{Geography} \rightarrow XI$ Who studies in Class - 8? (1) B (1) $B \rightarrow \text{History} \rightarrow \text{VIII}$	(2) C	(3) A	(4) E
100. Ans. Sol.	(3) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow V$ $F \rightarrow Physics \rightarrow VII$ $C \rightarrow Hindi \rightarrow VI$ $E \rightarrow Mathematics \rightarrow X$ $G \rightarrow Geography \rightarrow XI$ Who studies in Class - 8? (1) B (1) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$	(2) C	(3) A	(4) E
100. Ans. Sol.	(3) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow V$ $F \rightarrow Physics \rightarrow VII$ $C \rightarrow Hindi \rightarrow VI$ $E \rightarrow Mathematics \rightarrow X$ $G \rightarrow Geography \rightarrow XI$ Who studies in Class - 8? (1) B (1) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow V$	(2) C	(3) A	(4) E
100. Ans. Sol.	(3) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow V$ $F \rightarrow Physics \rightarrow VII$ $C \rightarrow Hindi \rightarrow VI$ $E \rightarrow Mathematics \rightarrow X$ $G \rightarrow Geography \rightarrow XI$ Who studies in Class - 8? (1) B (1) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow VI$	(2) C	(3) A	(4) E
100. Ans. Sol.	(3) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow V$ $F \rightarrow Physics \rightarrow VII$ $C \rightarrow Hindi \rightarrow VI$ $E \rightarrow Mathematics \rightarrow X$ $G \rightarrow Geography \rightarrow XI$ Who studies in Class - 8? (1) B (1) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow VI$ $F \rightarrow Physics \rightarrow VII$ $C \rightarrow Hindi \rightarrow VI$	(2) C	(3) A	(4) E
100. Ans. Sol.	$B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow V$ $F \rightarrow Physics \rightarrow VII$ $C \rightarrow Hindi \rightarrow VI$ $E \rightarrow Mathematics \rightarrow X$ $G \rightarrow Geography \rightarrow XI$ Who studies in Class - 8? (1) B (1) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow V$ $F \rightarrow Physics \rightarrow VII$ $C \rightarrow Hindi \rightarrow VI$ $E \rightarrow Mathematics \rightarrow X$	(2) C	(3) A	(4) E
100. Ans. Sol.	(3) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow V$ $F \rightarrow Physics \rightarrow VII$ $C \rightarrow Hindi \rightarrow VI$ $E \rightarrow Mathematics \rightarrow X$ $G \rightarrow Geography \rightarrow XI$ Who studies in Class - 8? (1) B (1) $B \rightarrow History \rightarrow VIII$ $A \rightarrow English \rightarrow IX$ $D \rightarrow Chemistry \rightarrow V$ $F \rightarrow Physics \rightarrow VII$ $C \rightarrow Hindi \rightarrow VI$ $E \rightarrow Mathematics \rightarrow X$ $G \rightarrow Geography \rightarrow XI$	(2) C	(3) A	(4) E