

SONA COLLEGE OF TECHNOLOGY Learning is a Celebration!

Max. Marks: 100

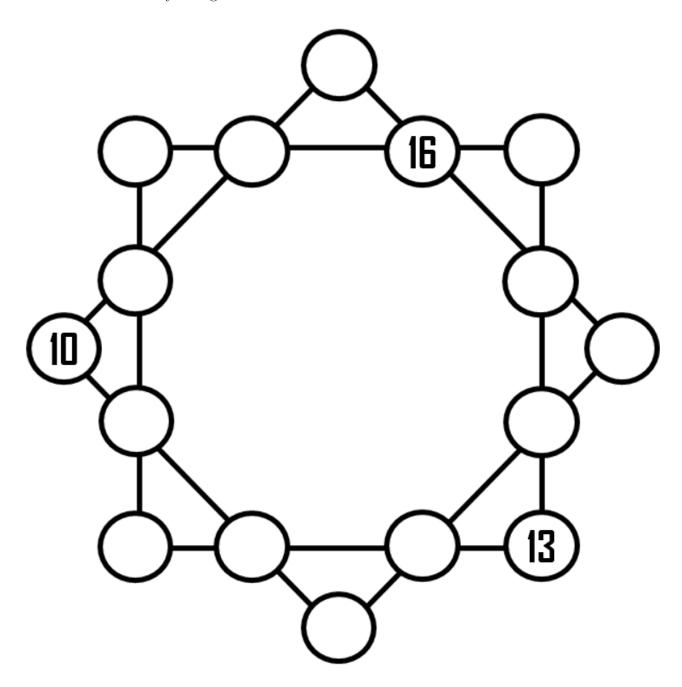
Math Puzzle - I

10 marks

<u>Instruction</u>:

Condition - I You can use the number from 1 to 16 without repetition

Condition - II Every straight line sum should be 34





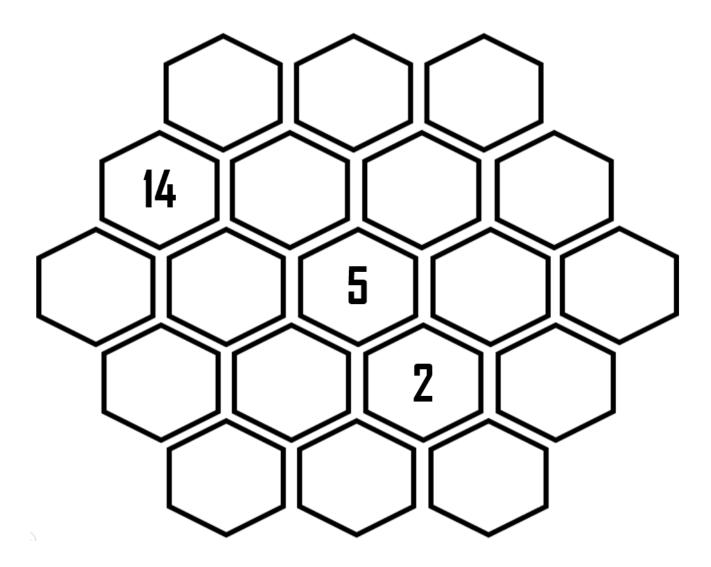
Math Puzzle - II

10 marks

<u>Instruction</u>:

Condition - I You can use the number from 1 to 19 without repetition

 ${\bf Condition - II} \ \, {\bf Every \,\, straight \,\, line \,\, sum \,\, should \,\, be \,\, 38 }$





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Math Puzzle - III

10 marks

Instruction:

- You can fill the boxes by Natural numbers
- $\bullet\,$ Filled numbers should satisfies the Rowwise & Columnwise mathematical operations as mentioned.



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Math Puzzle - IV

10 marks

<u>Instruction</u>:

- You can fill the boxes (not shaded) by Natural numbers
- $\bullet\,$ Filled numbers should satisfies the Rowwise & Columnwise mathematical operations as mentioned.

	+		×		II	20
+		×				
	×		×		II	48
_		×		+		
	×		1		=	38
=		=		=		
0		80		10		



Max. Marks: 100

Sudoko

10 marks

A 9×9 square must be filled in with numbers from 1-9 with no repeated numbers in each line, horizontally or vertically with help of clues A,B,C,D,E & F. To challenge you more, there are 3×3 squares marked out in the grid, and each of these squares can't have any repeat numbers either

- A Only Prime that successor to a prime.
- **B** A tree doubled in height each year until it reached its maximum height over the course of ten years. How many years did it take for the tree to reach half its maximum height?
- C A boy has as many sisters as brothers, but each sister has only half as many sisters as brothers. How many brothers are there in the family?
- D Sum of digits of number whose binary form is 11010₂
- **E** An Odd number (x). Take an alphabet away from x and it becomes even. which is that number?
- F What single digit appears most frequently between and including the number 1 and 100.

С			A		F	
	Е	F		В		С
	A	D				F
F	В		С			
				A	Е	В
В	D					
	F		В	С	D	
Е	7	С			В	Α
	В	F B	F B B D F	F B C	F B C A B C	F B C D F C B



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Max. Marks: 100

Aptitude Cross Puzzle - I

20 marks

- 1. Across clues have answers that consist of words whose letters run horizontally (From Left to Right & From Right to Left) across the grid.
- 2. Down clues have answers that consist of words whose letters run vertically (From Top to Bottom & From Bottom to Top).
- 3. Each across and down clue is assigned a unique alphabet. This alphabet corresponds to the alphabet for its answer in the grid.
- 4. Answers must fit within the allotted space given for the clue

M	U		R				0	X	G
	С			Y	X	X		T	
				D	I				Н
		X	X				S		
				E					J
X	Α	X		F	Q			X	
X		X		X		X	W		
В			Р	L		К			
X	X					X		X	X
X		X	X	Z	٧	X	N		



Max. Marks: 100

Aptitude Cross Puzzle - I

From Left to Right

B
$$(37.5 \times 22 \times 48) \div 2^4 - ? = 11^3$$

I
$$8\frac{1}{7} \div \frac{19}{168} \times 167\frac{1}{3} = (7^2 - 1) \times ?$$

K
$$65\%$$
 of $400 + \sqrt{?} = 44\%$ of $800 - 12\%$ of 400

N
$$3333 \div 33 + 4004 \div 26 + 650 \div 25 = ?$$

Q 600% of
$$\sqrt{\frac{180 \times 81}{5}} \times 12 \div 3^{-1} = ?^2$$

R
$$3\frac{2}{5}$$
 of $580 + 7\frac{1}{7}$ of $147 + 3\frac{1}{3}$ of $603 = ?$

U 62.5% of
$$320 + 83\frac{1}{3}\% \times 540 = ? + 41\frac{2}{3}\% \times 180$$

W ?% of
$$125 + 15^2 = 26^2 - 2.5\%$$
 of 640

X
$$7\frac{2}{3}$$
 of $15 + 9\frac{1}{6}$ of $30 = 0.5 \times$?

From Right to Left

$$\mathbf{D} \quad \left[(2211 \div 67)^2 - 21 \times \sqrt{256} \right] \div (549 - 213) = ? \div 1344$$

E
$$\frac{1}{2}$$
 of $52846 + 35\%$ of $? - 85\%$ of $42320 = 2547$

H
$$\sqrt[2]{441} \times (985.35 - 969.35) = ?^{\frac{1}{2}} + 305$$

$$\mathbf{J} \quad \frac{\sqrt{3}+1}{\sqrt{3}-1} \times 20^2 - 3^{\frac{1}{2}} \times 2^2 \times 10^4 = ?$$

L
$$(13456 - 712) \div 27^2 = ? \div 3 \div 3 \div 3 \div 2$$

$$\mathbf{S} \quad 999\frac{1}{7} + 999\frac{2}{7} + 999\frac{3}{7} + 999\frac{4}{7} + 999\frac{5}{7} + 999\frac{6}{7} = ?$$

Y
$$6156 \div \sqrt{?} \times 53 = 4028$$

From Top to Bottom

A
$$\frac{1}{6}$$
 of 35 of $2160 + \sqrt{3969} - 449 = ? -60$

$$\mathbf{C}$$
 62% of 16850 + 32% of 7345 = 52% of 645 + ?

G
$$45\%$$
 of $480 + 1\frac{1}{8}$ of $2160 + 2\frac{1}{3}$ of $150 = ?$

$$\mathbf{J} \quad 86 - 86^2 + 86 \times (86 + 86 \div 0.86) = ?$$

$$\mathbf{M} \quad (? - 968) \div 79 \times 4 = 512$$

$$\mathbf{O} \quad (2^{12} - 3^9) \times (3^6 - 9^3) + 11^2 = ?$$

$$\mathbf{T}$$
 LCM of 168, 112 and 140

From Bottom to Top

$$\overline{\mathbf{F}} \quad 784 \div 14 + 598 \div 13 + ? = 99\% \text{ of } 2500$$

N
$$14^{\frac{2}{3}} \times \sqrt{729} - 23\%$$
 of $1750 = ?^{\frac{1}{2}} - 23.5$

P
$$2\frac{1}{3}\%$$
 of $1500 + \left\{32\%$ of $1450 + \sqrt{1066 - 15\%}$ of $280 \div (68 - 72)\right\} = ?$

V Sum of the squares of 2-numbers is 146 and the sum of them is 16. The cube of largest number is

Z
$$16\frac{2}{3}\%$$
 of $(2.8 \times 6 + 5.4 \times 9) = 10^{-1} \times ?$



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Aptitude Cross Puzzle - II

20 marks

- 1. Across clues have answers that consist of words whose letters run horizontally (From Left to Right & From Right to Left) across the grid.
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- 3. Each across and down clue is assigned a unique alphabet. This alphabet corresponds to the alphabet for its answer in the grid.
- 4. Answers must fit within the allotted space given for the clue

X		A							В
X	X	M					X	X	
	X		I					X	
Е				X				L	
		X		X					N
	D			F		С			X
		X			K			X	X
		X	X		X			0	
X	G				X			X	X
X	Н	X	X				J	X	X

A PTITHON Aptitude Marathon

PUZZLE

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Max. Marks: 100

Aptitude Cross Puzzle - II

From Left to Right

- A Product of first 3-odd number but not prime.
- C Three-fourth of a number is 60 more than ite one-third. find the number.
- E An inspector rejects 0.08% of the meters as defective. How many will be examine to reject 2 meters.
- **G** Mahesh borrowed Rs.3000 from his friend Suresh at 15 per cent per annum for 3 years. Find the interest and money returned by Mahesh to Suresh.
- I Find the amount if sum is Rs.8900 rate of interest 14% in 3 years at Simple Interest.
- M Find the sum of factors of 270.
- O $81^{0.25} \times 9^{0.5} \times 27^{1.5} \div 243^{0.5}$

From Right to Left

- A Only integer that is one greater than a square and less than a cube.
- **B** Least four digit number divisible by 4, 6, 8 and 10.
- $\mathbf{C} = \left(\frac{75983 \times 75983 45983 \times 45983}{30000}\right)$
- J Octal conversion of 1008
- L $5 \times 2 [3 \{5 (7 + 2 \text{ of } 4 19)\}]$
- $N \quad 32 \times 32 + 1448 + 18 \times 18 = ? + 296$

From Top to Bottom

- A In an election between 2-candidates, one got 55% of the total valid votes, 20% of the votes were invalid. if the total number of votes was 7500. Find the number of valid votes the other candidate got.
- **B** Find the cost of carpeting a room 13 m long and 9 m board with a carpet 75 cm wide at the rate of Rs.122 per square meter.
- C When a shopkeeper reduces the selling price from 1080 to 1026 its loss increases by 4 percentage point. What is the selling price of this same article when it fetches a profit of 4%?
- **E** By selling a colour TV for Rs.23520, a dealer suffers a loss of 4%. What is the cost price of the colour TV? At what price should he sell it to gain 8%?
- **F** covert 28 into Binary form?
- I The average of 30 numbers 35.3. if each number is multiplied by 10 then find the sum of all 30 numbers.

From Bottom to Top

- C Least six digit number divisible by 15, 21 and 28
- **D** Convert to a % 6 $\frac{3}{4}$
- E If $\sqrt{1 + \frac{x}{169}} = \frac{14}{13}$, then x is equal to
- **H** Amit, Sumit and Puneet share an amount in the ratio of 19:22:13. If the share difference of Sumit and Puneet is 2421, find the total amount
- **J** The value of $\frac{8!}{4!}$
- **K** LCM of 124, 264, 324



Math Puzzle - V

10 marks

Fill the $\underline{\text{Non-Shaded empty boxes}}$ by using the keys in the table named as "Keys to be use".

			=	993		22			II	
-		X						+		+
		5					II	8		
=		II		+				II		II
	•		=				-		II	
				=		-				
			=				+		=	
		÷				=				
945			×		=			32		57
=		=						=		=
		9	=	2			-		Ш	

Keys to be use

+	+	+	_	-	×	×	•	1	1	2	5
7	8	8	14	18	18	19	25	176	226	252	284
389	402	403	641	698	944	945	963	969	982	988	_