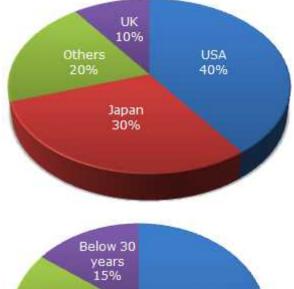
### **Quantitative Aptitude**

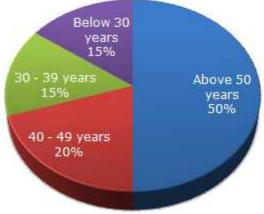
1. Two pipes A and B can separately fill a cistern in 60 minutes and 75 minutes respectively. There is a third pipe in the bottom of the cistern to empty it. If all the three pip simultaneously opened, then the cistern is full in 50 minutes. In how much time, the third alone can empty the cistern?			ern to empty it. If all the three pipes are 0 minutes. In how much time, the third pipe
	a) 90 min d) 120 min	b) 100 min e) None of these	c) 110 min
2.	What will be the ratio of for 6 years and that for a) 1:3	9 years?	certain amount at the same rate of interest ) 2:3
	d) Data inadequate	*	, 2 . 3
3.		vided by 12, then dividend ber is greater than the seco b) 200 e) None of these	becomes $\frac{1}{4}$ th of the other number. By how nd number?
4.	A sphere of 30 cm radiu	us is dropped into a cylindar, then its level rises by x cb) 22.5 cm	ical vessel of 80 cmj diameter, which is m. Find x: c) 18.5 cm
5.	Which of the following a) 35718 d) 3125736	numbers is divisible by 24 b) 63810 e) None of these	c) 537804
6.	0 0	A, B and C is 45 kg. If the g, then the weight of B is: b) 20Kg e) None of these	average weight of A and B be 40 kg and c) 26Kg
7.			001 pens and 910 pencils can be distributed ber of pens and same number of pencils is c) 1001
8.	In how many ways can women?	a group of 5 men and 2 wo	omen be made out of a total of 7 men and 3
	a) 63 d) 145	b) 90 e) None of these	c) 126
9.	A card is drawn from a or a king of heart is:	pack of 52 cards. The prob	pability of getting a queen of club
	a) 1/13 d) 1/52	b) 2/13 e) None of these	c) 1/26
10.	-	-	s born while her mother was 36 years old orn. What is the difference between the ages
	a) 2 years d) 12 years	<ul><li>b) 4 years</li><li>e) None of these</li></ul>	c) 6 years

11.	an the original price. He sold it with profit did Samant earn on the				
	original price? a) 17%	b) 20%	c) 27%		
	d) 32%	e) None of these	C) 2170		
	u) 3270	e) Ivolic of these			
12.	2. The sum of $n$ terms of the series, where $n$ is an even number : $1^2   2^2 + 3^2   4^2 + 5^2 + 6^2 + \dots$ :				
	a) $n (n + 1)$	b) $\frac{n (n+1)}{n}$	c) $\frac{n(n+1)}{2}$		
	d) Data inadequate	77	2		
	a) Bata madequate	e) Ivolic of these			
13.	If $x \times y = x + y + \overline{xy} t$	then the value of $6 \times 24$ is			
	a) 41	b) 42	c) 43		
	d) 44	e) None of these			
1.4			TC1 1 10 Cd 11 .		
14.	-		If he covers one-half of the distance stance in the remaining time, his		
	speed (in Km/hr) must b		stance in the remaining time, ins		
	a) 6	b) 8	c) 12		
	d) 15	e) None of these	0) 12		
	<i>a,</i> 10	0,110110 01 111000			
15.		8 days and B can do the same w many days, A alone can finish tl	ork in 15 days. B worked for 10 days he remaining work?		
	a) 5	b) $5\frac{1}{3}$	c) 6		
	d) 8	e) None of these			
16.	In ABC, $B = \frac{\pi}{3}$ and C	$=\frac{\pi}{4}$ . Let D divide BC internall	y in the ratio 1:3, then $\frac{\sin(BAD)}{\sin(\angle CAD)} =$ c) $\frac{1}{\sqrt{3}}$		
	a) $\frac{1}{3}$	b) $\frac{1}{\sqrt{6}}$	c) $\frac{1}{\sqrt{3}}$		
	W.		•		
	d) <u>3</u>	e) None of these			
	17. Find the length of one side of a right triangle if the length of the hypotenuse is 15 inches and the length of the other side is 12 inches.				
	a) 8 inches	b) 7 inches	c) 9 inches		
	d) 13 inches	e) None of these			
18.	In one hour, a boat goes the boat in still water in		m against the stream. The speed of		
	a) 3	b) 5	c) 8		
	d) 9	e) None of these			
	<del>-</del> / -	c, rone or mese			
fol	lowig pie charts exhibit t	the distribution of the overseas to	purist traffic from India. The two		

charts shows the tourist distribution by country and the age profiles of the tourists respectively.

Distribution of Overseas Tourist Traffic from India.





- 19. What percentage of Indian tourist went to either USA or UK?
  - a) 40%
- b) 50%
- c) 60%

- d) 70%
- e) None of these
- 20. The ratio of the number of Indian tourists that went to USA to the number of Indian tourists who were below 30 years of age is?
  - a) 2:1

- b) 8:3
- c) 3:8

- d) Cannot be determined
- e) None of these
- 21. If amongst other countries, Switzerland accopunted for 25% of the Indian tourist traffic, and it is known from official Swiss records that a total of 25 lakh Indian tourists had gone to Switzerland during the year, then find the number of 30 39 year old Indian tourists who went abroad in that year?
  - a) 18.75 lakh
- b) 25 lakh
- c) 50 lakh

- d) 75 lakh
- e) None of these
- 22. On 8<sup>th</sup> Feb. 2005 it was Tuesday. What was the day of the week on 08<sup>th</sup> Feb. 2004?
  - a) Tuesday
- b) Monday
- c) Sunday

- d) Wednesday
- e) None of these
- 23. The reflex angle between the hands of a clock at 10.25 is:
  - a) 180°
- b)  $192\frac{1^{\circ}}{2}$

c) 195°

- d) 197 1°
- e) None of thes

24.		and the ratio in which rice at Rs. 7.20 a kg be mixed with rice at Rs. 5.70 a kg to produce a exture worth Rs. 6.30 a kg.		
	a) 1:3 d) 4:5	b) 2:3 e) None of these	c) 3:4	
25.			er pipe. If together the two pipes can fill vill be able to fill the tank in c) 144 min	
26.	What will be the simple $6\frac{1}{4}\%$ p.a.?	e interest earned on an amou	nt of Rs.16,800 in 9 months at the rate of	
	a) Rs.787.50 d) Rs.887.50	b) Rs.812.50 c) e) None of these	Rs.860	
27.			them secured 9 marks more than the other The marks obtained by them are: c) 42, 33	
28.	shaped plot?		l plot to the area of the smaller square	
	<ul><li>a) 17: 1</li><li>d) Data inadequate</li></ul>	b) 25:9 e) None of these	c) 16:1	
29.	The difference of the sq following integers?	quares of two consecutive ev	ven integers is divisible by which of the	
	a) 3 d) 7	b) 4 e) None of these	c) 6	
30.	If the average marks of the average marks of all		45 students respectively is 50, 55, 60, then	
	<ul><li>a) 53.33</li><li>d) Data inadequate</li></ul>	b) 54.68 e) None of these	c) 55	
31.	The HCF of two numbers a) 8 d) 72	ers is 8. Which one of the fo b) 12 e) None of these	llowing can never be their LCM? c) 60	
32.	If $5x^2$ $13xy + 6y^2 = 0$ a) 2:1 only d) 3:5 or 2:1	D, then x : y is : b) 3 : 5 only e) None of these	c) 5 : 3 or 1 : 2	
33.	A, B, C hired a car for I by B were	Rs.520 and used it for 7,8 ar	nd 11 hours respectively. Hire charges paid	
	a) Rs.140 d) Rs.220	b) Rs.160 e) None of these	c) Rs.180	
34.	*	ways can the letters of the w	ord 'OPTICAL' be arranged so that the	
	a) 120 d) 2160	b) 720 e) None of these	c) 4320	

35. One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card (Jack, Queen and King only)?

	a) $\frac{1}{13}$ d) $\frac{9}{52}$	b) $\frac{3}{13}$ e) None of these	c) $\frac{1}{4}$
	**	Reasoning A	bility
36.	How many meaningfu only once in each wor	l English words can be m	nade with the letters SULETR using each letter
	a) None d) Three	b) One c) Two e) More than three	
37.	that does not belong to	that group?	n way and so form a group. Which is the one
	a) EV d) KP	b) GT e) LN	c) IR
38.	in that code?		ABIT is written as 100. How is HAIR written
	a) 72 d) 50	b) 27 e) None of these	c) 80
39.	9. If it is possible to make a meaningful word with 1 <sup>st</sup> , 5 <sup>th</sup> and 8 <sup>th</sup> letters of the word 'INDISTINGUISHABLE', which of the following will be the 2 <sup>nd</sup> letter from the right end? If no such word can be formed give 'X' as the answer and if more than one such word can be formed give 'Y' as the answer		
	a) I d) X	b) S e) Y	c) N
40.	If '+' means ' ', ' 'r of 300 + 28 5 × 32 ÷		and '÷' means '+', then what will be the value
	a) 55 d) 40	<ul><li>b) 50</li><li>e) None of these</li></ul>	c) 55
41.			anged in alphabetical order and all consonants which of the following letter will be third to
	a) S d) I	b) N e) R	c) O
42.	ascendingand descend	ing order?	i42 retain its position if they are rearranged in
	<ul><li>a) None</li><li>d) Three</li></ul>	b) One e) More than three	c) Two
43.	-	s of letters are there in the them in the word as in the b) One e) More than three	ne word TRANSCRIBE each of which has as English alphabet? c) Two
44.	What will be there in JEG35, IK99, MO182,	place of in the following s	peries?
	a) TV440 d) ST380	b) ZA26 e) None of these	c) TU420

45.	45. What should come next in the following number series? 86 42 34 56 76 42 34 56 42 34		
	a) 7	b) 6	c) 8
	d) 3	e) None of these	
16	'DD' is related to 'DII'	in the same way 'MO' i	a malatad to
40.	a) PR	in the same way 'MO' i b) QR	c) OS
	d) OP	e) OQ	c) 03
	u) 01	0) 00	
47.	R is uncle of A. R is gr	and father of Q. Q's brot	her name is P, then what is relation of P to A?
	a) Brother	b) Grand father	c) Father
	d) Uncle	e) None of these	
48	Among P O R S an	d T each having differe	nt weight. R is heavier than only P and S is
		rier than T. Who among t	
	a) P	b) Q	c) S
	d) Data inadequate	e) None of thes	e
40	TC11 ' 11 1		
49.			nite is called black, black is called red and red
	a) Black	b) Green	the colour of unripe Banana? c) White
	d) Yellow	e) Red	c) winte
	a) Tenow	c) Ital	
50.	Mohit correctly remen	nbers that his father's b	prithday is not after 18th of April. His sister
			is before 20 <sup>th</sup> but after 17 <sup>th</sup> of April. On which
		tely their father's birthda	y?
	a) 17 <sup>th</sup>	b) 19 <sup>th</sup> c) 18 <sup>th</sup>	
	d) 17 <sup>th</sup> or 18 <sup>th</sup>	e) None of these	
Directi	ions (Q) Followin	g questions are based on	the five three digit numbers given below.
500	720 946 402	275	
528	739 846 492	375	
51.	Which of the following	represents the sum of th	e first two digits of the highest number?
	a) 7	b) 10	c) 12
	d) 13	e) None of these	
50	TC d C d	1st 1.1 and 1	1 1 1 6 1
52.	If the positions of the	and the 2 digits of digits of the 2 <sup>nd</sup> lowest n	each number are interchanged, which of the
	a) 8	b) 9	c) 6
	d) 2	e) 5	0) 0
		-, -	
53.	_		of each number are interchanged, which of the
	_	iddle digit of the third hi	<del>-</del>
	a) 2 d) 9	b) 3	c) 4
	u) 9	e) 7	
Directi	ions (Q. ) Study	the following information	on carefully and answer the questions given
below.	, ,	C	, ,
	(D. 01		
(i)	$P \times Q'$ means 'P is		
(ii)	-		
(iii) (iv)	-	~	

- 54. Which of the following represents 'W is grand father of H'?
  - a) W + T H
- b)  $W \div T$  H
- c)  $W \times T + H$

- d)  $W \div T + H$
- e) None of these
- 55. Which of the following represents 'M is nephew of R'?
  - a)  $M \div T$  R
- b)  $R \div T$  M
- c)  $R \times T + M \times J$

- d)  $R \div T M \div J$
- e) None of these

**Directions (Q.** \_\_\_\_\_) In each of the questions below are given four statements followed by four conclusions numbered I, II, III and IV. You have to take the given statements to be true eve, if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

56. **Statements:** All rockets are poles.

Some poles are trams. Some trams are ropes. All ropes are tents. I. Some tents are trams.

**Conclusions:** I. Some

II. Some ropes are rockets.
III. Some trams are rockets.
IV. Some poles are rockets.

- a) Only I and II follow
- b) Only I, II and III follow
- c) Only I and III follow
- d) Only I and IV follow
- e) None of these
  - 57. **Statements:** All dials are mirrors.

All mirorrs are spoons. Some spoons are decks. Some decks are chairs. I. Some decks are mirrors.

**Conclusions:** 

II. Some spoons are dials.III. Some decks are dials.IV. Some chairs are spoons.

- a) None follows
- b) Only I follows
- c) Only II follows
- d) Only III follows
- e) Only IV follows
- 58. **Statements:** Some houses are forests.

All forests are trees. Some trees are hills. All hills are buses.

**Conclusions:** I. Some buses are trees.

II. Some trees are houses.III. Some hills are houses.IV. Some buses are forests.

- a) Only I and II follow
- b) Only I, II and IV follow
- c) Only I, II and III follow

	<ul><li>d) All I, II, III and IV</li><li>e) None of these</li></ul>	follow		
59.	<b>Statements:</b>	Some ponds are river. Some rivers are mou Some mountains are Some books are paper	untains. books.	
	Conclusions:	I. Some books are riv II. Some papers are r III. Some mountains IV. No paper is pond	vers. ponds. s are ponds.	
	<ul><li>a) None follows</li><li>b) Only either II or IV</li><li>c) Only II follows</li><li>d) Only IV follows</li></ul>	follows		
60.	e) Only either II or IV  Statements:	Some tigers are horse All horses are goats. All goats are dogs. Some dogs are cats.		
	Conclusions: I. Some	e cats are tigers.  II. Some dogs are ho III. Some goats are ti IV. Some cats are ho	igers.	
	a) Only I and II follow b) Only I, II and III follow c) Only II and III follow d) Only II, III and IV for e) None of these	ow v		
61.	Statements:	All notebooks are pe No pen is table. Some tables are desk All desks are tanks.	ks.	
	Conclusions:	I. Some tanks are per II. Some desks are no III. Some tanks are ta IV. No tank is pen.	otebooks.	
	<ul><li>a) Only I follows</li><li>b) Only III follows</li><li>c) Only IV follows</li><li>d) Only either I or IV follows</li><li>e) Only either I or IV and an interpretable of the properties of</li></ul>	ollows		
Direction below.	ons (Q) Study	the following inform	nation carefully and answer the questions g	giver
	P, Q, R, S, T, V, W and 3 <sup>rd</sup> to the right of P. S is not an immediate neighb	s 2 <sup>nd</sup> to the left of P a	a circle facing the centre. T is $2^{nd}$ to the right and $4^{th}$ to the right of Q. Z is $3^{rd}$ to the right	of R
62.	In which of the following persons?	ng combinations is the	e first person sitting in between the 2 <sup>nd</sup> and th	ne 3 <sup>ro</sup>
	a) VTS	b) TZS	c) QRV	

	d) PWQ	e) VRT	
63.	Who is 2 <sup>nd</sup> to the right (a) S d) R	of T? b) Z e) None of these	c) P
64.	What is P's position wi a) 4 <sup>th</sup> to the left b) 4 <sup>th</sup> to the right c) 5 <sup>th</sup> to the left d) 6 <sup>th</sup> to the left e) 3 <sup>rd</sup> to the right	th respect to S?	
65.	Who is the immediate l a) T	eft to Z? b) P	c) S
	d) V	e) None of these	
66.	Who is 2 <sup>nd</sup> to the right (a) R d) S	of W? b) Q e) None of these	c) Z
Directi below.	ons (Q) Study t	he following arrangeme	ent carefully and answer the questions given
W 7 @	IRP39BA\$4HD5	5 © M E 2 % T * 8 ! U Q	N 1 V 6 # K F
67.	67. How many such consonants are there in the above arrangement, each of which is immediate preceded by a consonant and immediately followed by a symbol?  a) None b) One c) Two d) Three e) More than three		
68.	If all the symbols are drawn 15 <sup>th</sup> from the left end?	ropped from the above a	rrangement, which of the following will be the
	a) E d) 2	b) 5 e) None of these	c) D
69.	69. How many such numbers are there in the above arrangement, each of which is immediated preceded by a symbol and immediately followed by a consonant?  a) None  b) One  c) Two d) Three  e) More than three		
70.			in way based on their positions in the above one that does not belong to that group?  c) 3 9 R

#### **Engligh Language**

King Hutamasan felt he had everything in the World not only due to his riches and his noble knights, but because of his beautiful queen, Rani Matsya. The rays of the Sun were put to shame with the iridescent light that Matsya illuminated, with her beauty and brain. At the right hand of the king, she was known to sit and aid him in all his judicial probes. You could not escape her deep-set eyes, when you committed a crime as she always knew the victim and the culprit. Her generosity preceded

her reputation in the kingdom and her hands were always full to give. People in the kingdom **revered** her because if she passed by, she always gave to the compassionate and poor.

Far away from the kingly palace lived a man named Raman with only ends to his poverty and no means to rectify it. Raman was wrecked with poverty as he had lost all his land to the landlord. His age enabled him little towards manual labour and so begging was the only alternative to salvage his wife and children. Every morning, he went door to door for some work, food or money. The kindness of people always got him enough to take home. But Raman was a little self-centered. His World began with him first, followed by his family and t he rest. So, he would eat and drink to his delight and ret urn home with whatev er he found excess. This routine followed and he never let anyone discover his interests as he always put on a long face, when he reached home.

One day as he was relising the bowl of rice he had just received from a humble home, he heard that Rani Matsya was to pass from the very place he was standing. Her g enerosity had reached his ears and he knew if he pulled a long face and showed how poor he was, she would hand him a bag full of gold coins – enough for the rest of his life, enough to buy food and supplies for his family. He thought he could keep some coins for himself and only reveal a few to his wife, so he can fulfil his own wishes.

He ran to the chariot of the Rani and begged her soldiers to allow him to speak to the queen. Listening to the arguments outside Rani Matsya opened the curtains of her chariot and asked Raman what he wanted. Raman went on his knees and praised the queen. I have heard you are most generous and most chaste, show this beggar some charity. Rani narrowed her brows and asked Raman what he could give her in return, surprised by such a question, Raman looked at his bowl full of rice. With spite in him he just pricked up a few grains of rice and gave it to the queen. Rani Matsya counted the 5 grains and looked at his bowl full of rice and said, you shall be given what is due to you. Saying this, the chariot galloped away.

Raman abused her under his breath. This he never thought would happen. How could she ask him for something in return, when she hadn't given him anything? Irked with anger he stormed home and gave his wife the bowl of rice. Just then he saw a sack at the entrance. His wife said men had come and kept it there. He opened it to find it full of rice. He put his hand inside and caught hold of a hard mental only to discover it was a gold coin. Elated he upturned the sack to find 5 gold coins in exact for the five rice grains. If only I had given my entire bowl, thought Raman, I would have had a sack full of gold.

- 71. What does the phrase 'pulled a long face' as used in the passage mean?
  - a) Scratched his face
  - b) Looked very sorrowful
  - c) Disguised himself
  - d) Put on makeup
- 72. What can possibly be the moral of the story?
  - a) Do onto others as you would want others to do to you
  - b) Patience is a virtue
  - c) Winning is not everything, it is the journey that counts
  - d) Change is the only constant thing in life
- 73. Why was begging the only option for Raman to get food?
  - a) As Raman belonged to a family of beggars
  - b) As begging was the easiest way for him to obtain food
  - c) As Raman's family had forced him to beg
  - d) As he had lost all his property and was too old to do manual work
- 74. What did Raman find after he ret urned home from his meeting with Rani Matsya?

	<ul><li>a) The Rani's soldiers</li><li>b) An empty house</li><li>c) The five grains of rice that he had given to Rani Matsya</li><li>d) A sack full of rice and five gold coins</li></ul>			
75.	<ul><li>75. According to the passage, which of the following is definitely true about Rani Matsya?</li><li>A. She was beautiful.</li><li>B. She was intelligent.</li><li>C. She was kind.</li></ul>			
	a) Only A d) A and B	b) Only B e) All the three	c) Only C	
76.	Which of the following A. Deceitful B. Selfish C. Timid	words can be used to de	scribe Raman?	
	a) Only A d) B and C	b) Only B e) All the three	c) A and B	
	ons () Choose the roup of words printed in		which is most similar in meaning to the age.	
77.	Galloped a) Hurtled d) Jumped	b) Stumbled e) Ran	c) Slumbered	
78.	Revered a) Remembered d) Embraced	b) Feared e) Respected	c) Talked about	
	ons (Q) Choose roup of words printed in		ds which is most opposite in meaning to the age.	
79.	Reveal a) Stop d) Pending	b) Conceal e) Tell	c) Present	
80.	Elated a) Afraid d) Depressed	b) Poor e) Grounded	с) Нарру	
			nks, each blank indicating that something has hich best fits the meaning of the sentence as a	
81.	81. Much of the that cricket has is due to the fact it is a sport.  a) allure, lucrative b) criticism, controversial c) flak, great d) comments, unusual e) attraction, unpopular			
82.	Since foggy weather or diverted some of the a) improves, started		metres, the railways has either partially	

b) impairs, called off c) hampers, withdrawn d) decrease, stopped e) reduces, cancelled	
83. The once district is gradually being of its green cover.  a) remote, eroded b) arid, replenished c) beautiful, devoid d) picturesque, depleted e) lush, rob	
<ul> <li>84. The pilot knew she would be able to see the lights of the city from her obut she would not see the fireworks explode to welcome the new year as she was to cruising altitude.</li> <li>a) few, soared</li> <li>b) divine, escalate</li> <li>c) glistening, jumped</li> <li>d) shining, reached</li> <li>e) glittering, climbed</li> </ul>	
<ul> <li>85. The New Year has in good news for city hotels as most properties a whole month.</li> <li>a) brought, deserted</li> <li>b) ushered, packed</li> <li>c) pushed, full</li> <li>d) steered, renovating</li> <li>e) escorted, vacant</li> </ul>	re for the
<b>Directions</b> (Q) Read each sentence to find out whether there is any grammidiomatic error in it. The error, any, will be in one part of the sentence. The number of answer. If there is no error, the answer is (5). (Ignore errors of punctuation, if any).	
<ul> <li>86. In cities people don't (1) / always have the time to (2) / catch up with old spend times with their family. (4) / No error (5)</li> <li>87. The band have been (1) / performing at many cause oriented concerts (2) people to come forward and (3) / lend their support to the noble cause. (4) No</li> <li>88. As market leaders, (1) / we have always been at (2) / the forefront of creating between the public. (4) No error (5)</li> <li>89. If the IPL has succeeded in drawing (1) / an audience across the country, it cricket has always had a strong foundation (3) / and a dedicated audince. (4) No</li> <li>90. In view of the intense cold wave conditions (1) prevailing in the state, declared (2) / holidays in all the schools (3) / for a period of ten days. (4) No expenditions (1) prevailing in the state,</li> </ul>	/ to encourage error (5) g awareness (3) / is because (2) / lo error (5) the government
<b>Directions (Q.</b> ) In the following passage there are blanks, each of which has These numbers are printed below the passage and against each, five words/phrases are of which fits the blank appropriately. Find out the appropriate word/phrase in each case	e suggested, one
The economics of owning and running a Ration Shop, the familiar name for the Public Distribution System, are such that under normal business terms, the shop ow make a profit. Yet, (91) the government announces that new permits for ration shop out, there is frenzy in the market to grab one will be given out of these (92)? The anst the business is not for the honest and if one knows the (93). There is a fortune to be made to the profit of the source of the profit of the honest and if one knows the (93).	ner could never os will be given swer is obvious:

What are these tricks of the trade?

- Getting fake names into the user list is the most obvious option: the State seems to be (94) a losing battle against this practice, judging by the endless efforts to weed out bogus ration cards.
- The next is to get the 'right customers' on the list, not just more customers. These are people who are registered but who do not have any interest in (95) on their entitlements. In a system where caste and income certificates are for sale, it is not (96) to 'produce' these documents for mutual benefit. Receipts are duly made in their names, and the rations thus 'drawn' are (97) off into the open market. The sale price of an item like rice makes clear the (98) economics it costs Rs.8 in a ration shop while in the latter is Rs.30 or above. There are also customers who would rather exchange their entitlements for hard cash at the beginning of the month.
- As the degradation progresses, the shopkeeper, in (99) with the official machinery, manages to withhold effectively the entitlements from even the genuine beneficiaries, and diverts them to the open market. The targeted group is usually not in a position to (100) it self to get its due.

91. a) whenever d) as soon	b) quickly e) time	c) just
92. a) what d) why	b) when e) how	c) where
93. a) lying d) hard work	b) people e) ropes	c) sprouting
94. a) attempt d) expecting	b) waging e) trying	c) winning
95. a) harping d) drawing	<ul><li>b) discussing</li><li>e) giving</li></ul>	c) realizing
96. a) easy d) simple	b) must e) enough	c) difficult
97. a) sell d) bought	b) borrowed e) siphoned	c) donated
98. a) understood d) mechanical	b) poor e)unclear	c) underlying
99. a) meeting d) show	b) collusion e) line	c) flow
100. a) ask d) deliver	b) voiced e) willful	c) assert

Therefore, the third pipe alone can empty the cistern in 100 min.

2. Let the principal be P and rate of interest be R%. So, required ratio = 
$$\frac{\frac{P \times R \times 6}{100}}{\frac{P \times R \times 9}{100}} = \frac{6PR}{9PR} = \frac{6}{9} = 2:3$$

3. Let the number be x and y. Then,  $\frac{x}{12} = \frac{y}{4}$ 

$$x = 3y$$

So, required percentage = 
$$\left[\frac{x}{y} \times 100\right]\% = \left[\frac{2y}{y} \times 100\right]\% = 200\%$$

4. Volume of water displaced = volume of sphere

$$\times (40)^2 \times h = \frac{4}{3} \times (30)^3$$

$$h = \frac{90}{4} = 22.5 \text{ cm}$$

Thus, the level of water rises by 22.5 cm.

Note The volume of water will be calculated by considering it in the cylindrical shape since the water takes the shape of vessel in which it is filled.

5.  $24 = 3 \times 8$ , where 3 and 8 are co-primes.

Clearly, 35718 is not divisible by 8, as 718 is not divisible by 8

Similarly, 63810 is not divisible by 8 and 537804 is not divisible by 8.

Consider part (d)

Sum of digits = (3 + 1 + 2 + 5 + 7 + 3 + 6) = 27, which is divisible by 3.

Also, 736 is divisibly by 8.

So, 3125736 is divisible by  $(3 \times 8)$ , i.e. 24.

6. Let A, B, C represent their respective weights. Then, we have:

$$A + B + C = (45 \times 3) = 135 \dots (i)$$

$$A + B = (40 \times 2) = 80 \dots (ii)$$

$$B + C = (43 \times 2) = 86 \dots (iii)$$

Adding (ii) and (iii), we get:  $A + 2B + C = 166 \dots$  (iv)

Subtracting (i) from (iv), we get: B = 31.

B's weight = 31 kg.

7. Required number of students = HCF of 1001 and 910

8. Required number of ways = 
$$({}^{7}C_{5} \times {}^{3}C_{2}) = ({}^{7}C_{2} \times {}^{3}C_{1}) = [\frac{7 \times 6}{2 \times 1} \times 3] = 63$$

9. Here, n(S) = 52

Let E = event of getting a queen of club or a king of heart.

Then, 
$$n(E) = 2$$

Then, 
$$n(E) = 2$$
  
 $P(E) = \frac{n E}{n S} = \frac{2}{52} = \frac{1}{26}$ 

10. Mother's age when Ayesha's brother was born

$$=42$$
 years

$$= Rs.100$$

$$= Rs.90$$

S.P. = 130% of Rs.90 = Rs.
$$\left[\frac{130}{100} \times 90\right]$$
  
= Rs.117  
Required percentage = (117 100)%  
= 17%

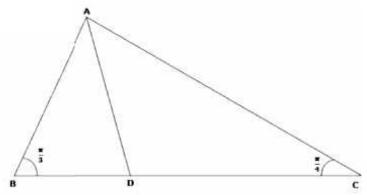
12. 
$$1^2$$
  $2^2 + 3^2$   $4^2 + 5^2 + 6^2 + 7^2$   $8^2 + \dots$   
=  $(1 \ 2) (1+2) + (3 \ 4) (3+4) + (5 \ 6) (5+6) + (7+8) (7 \ 8) + \dots$   
=  $(1+2) (3+4) (5+6) \dots$   
=  $[(1+2) + (3+4) + (5+6) + \dots]$   
=  $[1+2+3+4+5+6+\dots] = \frac{n(n+1)}{2}$ 

13. 
$$6 \times 24$$
 =  $6 + 24 + \sqrt{6 \times 24}$   
=  $30 + \sqrt{144}$   
=  $30 + 12$   
=  $42$ 

15. B's 10 day's work 
$$= \left[\frac{1}{15} \times 10\right] = \frac{2}{3}$$
 Remaining work 
$$= \left[1 \quad \frac{2}{3}\right] = \frac{1}{3}$$
 Now,  $\frac{1}{18}$  work is done by A in 1 day.

 $\frac{1}{3}$  work is done by A in  $[18 \times \frac{1}{3}] = 6$  days.

16. 
$$\frac{BD}{DC} = \frac{1}{3}$$
 [Given]



From ABD,  
BD/sin (
$$\angle$$
BAD) = AD/sin ( /3) ... (1)  
From ACD,  
DC/sin ( $\angle$ CAD) = AD/sin ( /4) ... (2)  
Now, divide (1) by (2) and use BD/DC = 1/3  
 $\Rightarrow$  sin ( $\angle$ BAD) / sin ( $\angle$ CAD) =  $\frac{1}{\sqrt{6}}$ 

17. Test the ratio of the lengths to see if it fits the 3n:4n:5n ratio. ?:12:15=?:4(3):5(3)

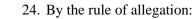
Yes, it is a 3 - 4 - 5 triangle for n = 3Calculate the third side  $3n = 3 \times 3 = 9$ The length of the side is 9 inches.

18. Speed in still water 
$$= \frac{1}{2} (11 + 5) \text{ km./hr.}$$
$$= 8 \text{ km./hr.}$$

19. 
$$(40 + 10) = 50\%$$
 (from first chart)

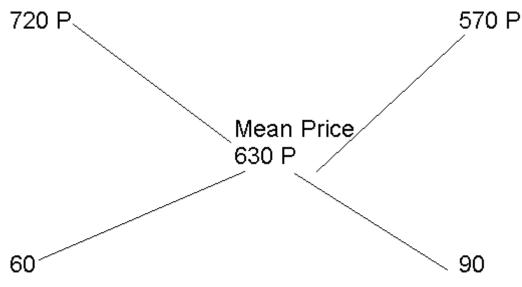
$$20.40:15=8:3$$

- 21. Tourist traffic from other countries to Swiz is 20% Amongst this 20%, 25% of traffic from India. So, 25% of 20% = 5% corresponds to the Indian traffic in Switzerland. 5% corresponds to Switzerland's 25 lakh. Hence 15% will be 75 lakh.
- 22. The year 2004 is a leap year. It has 2 odd days. So, the day on 8<sup>th</sup> Feb. 2004 is 2 days before the day on 8<sup>th</sup> Feb. 2005 Hence, this day is Sunday.
- 23. Angle traced by hour hand in  $\frac{125}{12}$  hours =  $[\frac{360}{12} \times \frac{125}{12}]^{\circ} = 312 \frac{1^{\circ}}{2}$ Angle traced by minute hand in 25 min. =  $[\frac{360}{60} \times 25]^{\circ} = 150^{\circ}$ So, reflex angle =  $360^{\circ}$  [ $312\frac{1}{2}$  150]° =  $360^{\circ}$  162 $\frac{1^{\circ}}{2}$  =  $197\frac{1}{2}$



Cost of 1 kg of 1st kind

Cost of 1 kg of 2<sup>nd</sup> kind



So, required ratio = 
$$60:90=2:3$$

25. Let the slower pipe alone fill the tank in x minutes. Then, faster pipes will fill it in  $\frac{x}{3}$  minutes

Therefore, 
$$\frac{1}{x} + \frac{3}{x} = \frac{1}{36}$$

$$\frac{4}{x} = \frac{1}{36}$$
  
x = 144 min.

26. Time = 9 months = 
$$\frac{3}{4}$$
 years  
So, S.I. = Rs.  $[16800 \times \frac{25}{4} \times \frac{3}{4} \times \frac{1}{100}]$  = Rs.787.50

27. Let their marks be 
$$(x + 9)$$
 and  $x$ .  
Then,  $x + 9 = \frac{56}{100}(x + 9 + x)$   
 $25(x + 9) = 14(2x + 9)$   
 $3x = 99$   
 $x = 33$ 

So, their marks are 42 and 33.

28. 
$$\frac{4x \times 4x}{x \times x} = \frac{16}{1} = 16:1$$

29. Let the two consecutive even integers be 2n and (2n + 2). Then

$$(2n + 2)^2$$
  $(2n)^2 = (2n + 2 + 2n)(2n + 2 + 2n)$   
= 2 (4n + 2) = 4 (2n + 1), which is divisible by 4.

30. Required Average = 
$$\begin{bmatrix} \frac{55 \times 50 + 60 \times 55 + 45 \times 60}{55 + 60 & 45} \\ = \begin{bmatrix} \frac{55 \times 50 + 60 \times 45}{3300 + 2700} \end{bmatrix} \\ = \frac{8750}{160} \\ = 54.68$$

31. HCF of two numbers divides their LCM exactly. Clearly, 8 is not a factor 60.

32. 
$$5x^2$$
  $13xy + 6y^2 = 0$   $5x^2$   $10xy$   $3xy + 6y^2 = 0$   $5x$   $(x$   $2y)$   $3y$   $(x$   $2y) = 0$   $(x$   $2y)$   $(5x$   $3y) = 0$   $x = 2y$  pr  $5x = 3y$   $\frac{x}{y} = \frac{2}{1}$  or  $\frac{x}{y} = \frac{3}{5}$  So,  $(x : y) = (2b : 1)$  or  $(3 : 5)$ 

33. A : B : C = 7 : 8 : 11  
Hire charges paid by B = Rs. 
$$[520 \times \frac{8}{26}]$$
  
- Rs 160

34. The word 'OPTICAL' contains 7 different letters.

When the vowels OIA are always together, they can be supposed to form one letter.

Then, we have to arrange the letters PTCL (OIA).

Now, 5 letters can be arranged in 5! = 120 ways

The vowels (OIA) can be arranged among themselves in 3! = 6 ways

Required number of ways =  $(120 \times 6) = 720$ 

35. Clearly, there are 52 cards, out of which there are 12 face cards.

P (getting a face card) = 
$$\frac{12}{52} = \frac{3}{13}$$

36. Option B

37. Option E

```
38. Option A
    A
          В
                 \mathbf{C}
                        D
                              E
                                     F
                                           G
                                                  Η
                                                         I
                                                               J
                                                                     K
                                                                           L
                                                                                  M
    1
          2
                 3
                              5
                                            7
                                                  8
                                                         9
                                                               10
                                                                           12
                        4
                                     6
                                                                     11
                                                                                  13
          Y
                        W
                               V
                                            T
    Z
                 X
                                     U
                                                  S
                                                         R
                                                                     P
                                                                           O
                                                                                  N
                                                               Q
           25
                               22
                                     21
                                                  19
    26
                 24
                        23
                                            20
                                                         18
                                                               17
                                                                     16
                                                                            15
                                                                                  14
    D - 4
    E-5 4+5+5+16=30\times 2=60
    E-5
    P - 16
    RABIT 18 + 1 + 2 + 9 + 20 = 50 \times 2 = 100
    Similarly, HAIR = 8 + 1 + 9 + 18 = 36 \times 2 = 72
39. Option A
40. Option E
    300 + 28 \quad 5 \times 32 \div 14
    After changing the sign = 300 	 28 \times 5 \div 32 + 14
    300 + 14 \quad 28 \times 5/32
    314 \quad 4.375 = 309.625
41. Option A
    SOVEREIGN
    GENERIOSV
    3<sup>rd</sup> to the right of the 5<sup>th</sup> from the right
42. Option A
                    3
                                            2
    8
                            6
                                    4
                    2
                            3
                                    4
                                                            9
    Increasing
                                            6
                                                     8
    Decreasing
                    9
                            8
                                    6
                                            4
                                                     3
                                                            2
43. Option A
                                            C
                                                            I
                                                                             Ε
    T
            R
                    A
                            N
                                    S
                                                     R
                                                                     В
    20
            18
                            14
                                    19
                                            3
                                                     18
                                                             9
                                                                     2
                                                                             5
44. Option A
45. Option E
    8642
                    345
                                    642
                                                     345
                                                                     642
                                                                                     34
                                                                                             4
46. Option C
47. Option D
48. Option B
    (SQT) > R > P .... (i)
    T < S < Q \dots (ii)
```

49. Option C

From Eq. (i) and (ii) Q > S > T > R > P

The colour of unripe Banana is green and according to question green is white.

50. Option B
According to Mohit birthday = 16, 17, 18
According to Mohit's sister birthday = 18, 19
Common day = 18<sup>th</sup> April

By Ramandeep Singh

#### 51. Option C

Highest number = 846Addition of first two digits = 8 + 4 = 12

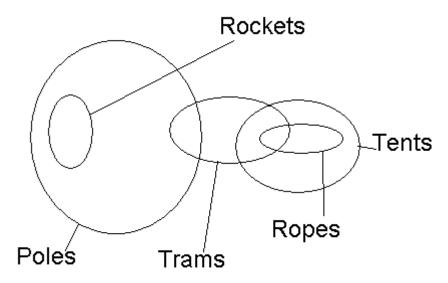
#### 52. Option E

258 379 486 942 735  $2^{nd}$  highest number = 735 and  $3^{rd}$  digit is 5

#### 53. Option C

825 937 648 294 573  $3^{rd}$  highest number = 648 and middle digit is 4

- 54. Option E
- 55. Option B
- 56. Option D

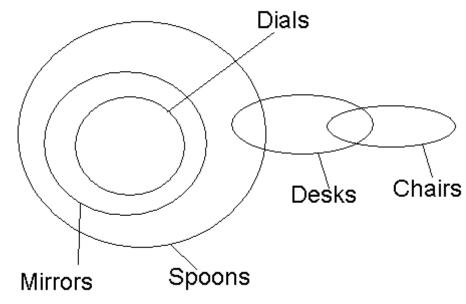


Conclusions: I. True

II. False III. False IV. True

Only I and IV follow

57. Option C



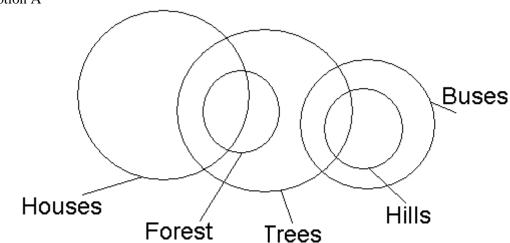
Conclusions: I. False

II. True III. False

IV. False

Only II follows





Conclusions: I. True

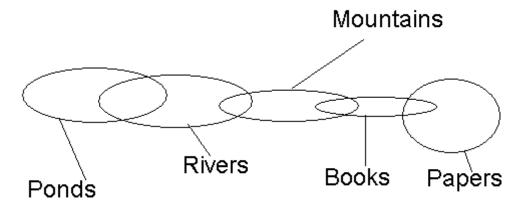
II. True

III. False

IV. False

Only I and II follow

59. Option B



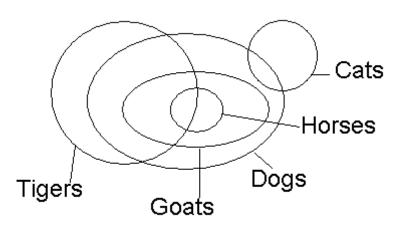
Conclusions: I. False

II. False III. False

IV. True

Either II or IV follows

#### 60. Option C



Conclusions: I. False

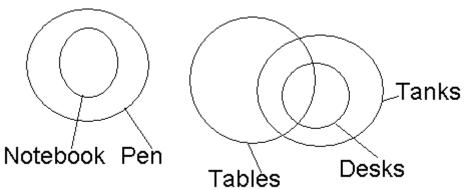
II. True

III. True

IV. False

Only II and III follow

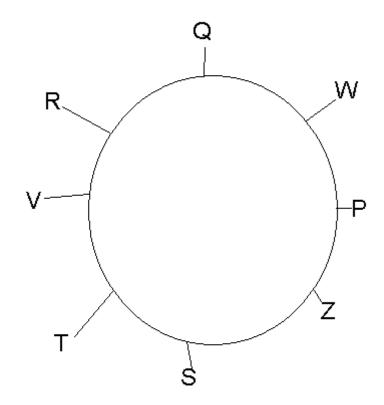
#### 61. Option E



Conclusions: I. False

II. False III. True

IV. True Either I or IV and III follow



- 62. Option E
- 63. Option B
- 64. Option D
- 65. Option C
- 66. Option A

W 7 @ I R P 3 9 B A \$ 4 H D 5 © M E 2 % T \* 8 ! U Q N 1 V 6 # K F

- 67. Option A
- 68. Option A
- 69. Option B
- 70. Option D
- 71. Option B
- 72. Option A
- 73. Option D
- 74. Option D
- 75. Option E
- 76. Option C
- 77. Option A
- 78. Option E
- 79. Option B
- 80. Option D
- 81. Option A
- 82. Option E
- 83. Option D
- 84. Option E
- 85. Option B
- 86. Option D

87. Option A

- 88. Option D
- 89. Option E
- 90. Option B
- 91. Option A
- 92. Option D
- 93. Option E
- 94. Option B
- 95. Option D
- 96. Option C
- 97. Option E
- 98. Option C
- 99. Option B
- 100. Option C