

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

Things NOT ALLOWED in EXAM HALL: Blank Paper, clipboard, log table, slide rule, calculator, camera, mobile and any electronic or electrical gadget. If you are carrying any of these, then keep them at a place specified by invigilator at your own responsibility.

INSTRUCTIONS

- 1. This Booklet is your Question Paper. DO NOT break seal of Booklet until the invigilator instructs to do so.
- 2. Fill your TALLENTEX Form No. & Answer Sheet No. in the space provided on the top of this page.
- 3. Fill your **PAPER CODE** in space provided (Point No. 6) of optical response sheet (ORS).
- 4. The Answer Sheet is provided to you separately which is a machine readable Optical Response Sheet (ORS). You have to mark your answers in the ORS by darkening bubble, as per your answer choice, by using black or blue ball point pen.
- 5. After breaking the Question Paper seal, check the following:
 - a. There are 20 pages in the booklet containing question no. 1 to 80 under 2 Parts i.e. Part-I & Part-II.
 - b. Part-I contains total 20 questions of IQ (Mental Ability).
 - $c. \quad \text{Part-II contains total 60 questions under 4 sections, which are \ Physics, Chemistry, \ Biology \& Mathematics.}$
- 6. Think wisely before darkening bubble as there is negative marking for wrong answer. Answer once marked by pen cannot be cancelled.
- 7. Marking Scheme:
 - a. If darkened bubble is RIGHT answer: 4 Marks.
 - b. If darkened bubble is WRONG answer: -1 Mark (Minus One Mark).
 - c. If no bubble is darkened in any question: No Mark.
- 8. If you are found involved in cheating or disturbing others, then your ORS will be cancelled.
- 9. Do not put any stain on ORS and hand it over back properly to the invigilator.
- 10. You can take along the question paper after the test is over.



PART-I

IQ (MENTAL ABILITY)

This section contains **20 Multiple Choice Questions.** Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

1.	Arrange the given w	vords in Alphabetical Or	der and choose the one	that comes first.
	(1) Didactic	(2) Dictum	(3) Dictonary	(4) Diastole
2.	If we interchange the	e first letter with sixth, se	cond with seventh and se	o on, in the word UNIVERSITY
	_	seventh from the right.		
	(1) I	(2) N	(3) T	(4) Y
3.	A watch reads 6:25.	If the minute hand point	towards East, in what di	rection will the hour hand point?
	(1) North	(2) South - East	(3) North - West	(4) North - East
4.	Ajay left home and	cycled 10 km towards S		and cycled 5 km and then again
	• •	•	•	km. How many kilometres will
	•	reach his home straight	•	·
	(1) 10 km	(2) 15 km	(3) 20 km	(4) 25 km
5.		* *		ow would STATISTIC be written
	in that code ?			
	(1) RSBUJTUHB	(2) RSBUITUHB	(3) RSBUIRSJD	(4) TUBUITUMB
6.	` '		• •	North. If A faces towards West,
	then who faces towa	•	•	,
	(1) B	(2) C	(3) D	(4) A
7.		one from each group, tha	nt together make a new r	neaningful word. The word from
	the first group alway			
		·		
		P Q BALL IS	R 1 2 ASH OR GOT	3 LAND
		DALL IS	ASII OK GOI	LAND
	(1) P1	(2) Q3	(3) R3	(4) P2
8.	In a certain code, C	ONVENTIONAL is writ	ten as NOCNEVOITLA	AN. How is ENTHRONEMENT
	written in that code	?		
	(1) TNEROHEMNT	NE	(2) TNEROHEMNN	NTE
	(3) TNEORHMENT	NE	(4) NTEROHEMNN	NTE
	Direction for (Q.9	& Q.10) - Ashok has nir	ne tasks — P, Q, R, S,	T, U, V, W, and X — that he'd
	like to do over the m	onths from October to Fe	ebruary, and he plans to	do two tasks every month except
	December. In Decem	ber, he does only one tas	sk. He does S in Novem	ber and W in February. He does
	R in the fourth mont	h after T. He does V and	X in the same month. H	He does U in a month just before
	the month he does I	P. He does V in a month	just after the month th	at he does Q.
9.	Which two tasks do	es Ashok do in October	?	
	(1) T and U	(2) P and U	(3) P and R	(4) T and S
10.		hok do in the month of	December ?	
	(1) V	(2) Q	(3) R	(4) T



11. Find the wrong term.

8, 27, 125, 343, 1381

- (1) 27
- (2) 8

- (3) 343
- (4) 1381

12. What comes next?













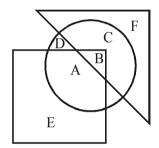




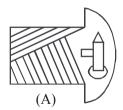
Find the missing term (?).

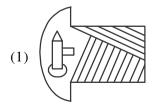
N5V, K7T, ?, E14P, B19N

- (1) H9R
- (2) H10Q
- (3) H10R
- (4) I10R
- 14. Which of the following statements is correct with regard to the given figure?



- (1) A and B are in all the three shapes
- (2) E, A, B, C are in all the three shapes
- (3) F, C, D, B, A are in all the three shapes
- (4) Only B is in all the three shapes
- Choose the correct mirror image from the alternatives (1), (2), (3) and (4) of the figure (A). **15.**







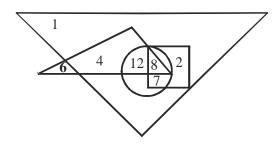








16. Study the figure carefully and answer the given question.



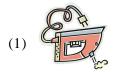
Here, big triangle represent artists, small triangle represents scientists, square represents dancers and circle represents doctors.

Which number represents the artists who are neither scientists nor doctors?

- (1) 1 and 2
- (2) 1 and 12
- (3) 2 and 7
- (4) 12 and 8

17. Choose the correct water image of the given figure.







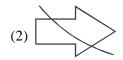




18. Choose the correct water image of the given figure.











19. Choose the correct mirror image of the word.

NONVERBAL

- (1) NONVERBA
- NONVERBAL (2)
- **VERBALREA** (E)
- VERBILREA (4)
- **20.** In a certain language 'La Pil Ta' means 'Mango Is Sweet'; 'Na Sa Pil' means 'Mango And Banana' and 'Ba Ta Tic' means 'Boy Is Wise'. In that language 'Sweet' means.
 - (1) La
- (2) Pil
- (3) Sa
- (4) Ba



PART-II

SECTION-A: PHYSICS

This section contains **12 Multiple Choice Questions.** Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

21. The diagram given below shows Earth rotating on its own axis.



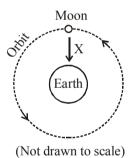
What is the total number of complete rotations that Earth makes in 2 weeks?

(1) 1

(2) 2

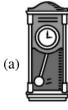
(3) 7

- (4) 14
- **22.** The diagram represents the Moon and its orbit around Earth. The arrow labeled X represents the force that keeps the Moon in its orbit.



Which force is represented by X?

- (1) gravity
- (2) electricity
- (3) friction
- (4) magnetism
- 23. Identify the type of motion exhibited by following objects.



Pendulum of a wall clock



A point at rim of blades of windmill

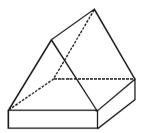
- (1) (a)- circular motion, (b)- periodic motion
- (2) (a)- periodic motion, (b)- circular motion
- (3) (a)- circular motion, (b)- circular motion
- (4) (a)- periodic motion, (b)- periodic motion



24. A man looked into a plane mirror and saw the clock as shown below. What was the time then?



- (1) 5:20
- (2) 6:40
- (3) 01:10
- (4) 7:35
- 25. The object shown below is taken out in the sun and rotated. The different shadows formed are observed. Mark the picture which cannot be the shadow of this object.



(1)







- **26.** Which of the following statements is correct?
 - An opaque object
 - (a) allows light to pass through it.
 - (b) does not allow light to pass through it.
 - (c) emits its own light.
 - (d) reflects light falling on it.
 - (1) a, c
- (2) b, c, d
- (3) b, d
- (4) a, d

- **27.** 500 mm equals
 - (1) 0.0005 km
- (2) 50 cm
- (3) 0.5 m
- (4) All of these
- **28.** Which of these best completes the conversion table ?

ConversionTable

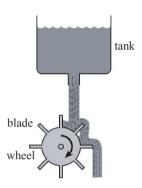
- (2) $\begin{vmatrix} 1 & km = 1,000 & cm \\ 1 & m = 100 & mm \end{vmatrix}$
- (3) $\begin{vmatrix} 1 \text{ km} = 1,000 \text{ m} \\ 1 \text{ m} = 100 \text{ mm} \end{vmatrix}$
- (4) $\begin{vmatrix} 1 & \text{km} = 1,000 \text{ m} \\ 1 & \text{m} = 100 \text{ cm} \end{vmatrix}$



- 29. Continents and oceans lie on/in
 - (1) layer below the crust.

(2) innermost layer of earth.

- (3) between core and mantle.
- (4) the crust of earth.
- 30. The diagram shows water flowing from a tank and rotating a wheel.



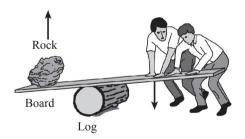
What kind of energy does the water have just before it hits the wheel?

(1) Mechanical energy

(2) Solar energy

(3) Electrical energy

- (4) Wind energy
- **31.** The diagram below represents two people using a board and a log as a simple machine to lift a large rock.



Which simple machine is shown above?

(1) Lever

(2) Inclined Plane

(3) Gear

- (4) Wedge
- 32. A student plugged a toaster into an electric outlet. He put a piece of bread in the toaster and turned the toaster on. While the toaster was on, it changed the electrical energy from the outlet into other forms of energy. Which form of energy toasted the bread?
 - (1) Chemical

(2) Heat

(3) Magnetic

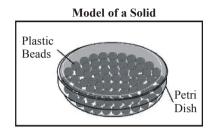
(4) Sound



SECTION-B: CHEMISTRY

This section contains **11 Multiple Choice Questions.** Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

33. A student made the model showing the particles in a solid. To improve the model, the student should

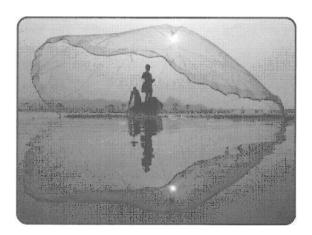


- (1) put the beads in a square container
- (2) take out some beads so the particles can move more easily
- (3) shake the container gently to show how the particles vibrate
- (4) use different-coloured beads to make the particles easier to see
- **34.** Wearing away of topsoil is known as
 - (1) Air pollution

(2) Winnowing

(3) Soil erosion

- (4) Weathering
- 35. The image below shows a fisherman throwing his net at sunset.

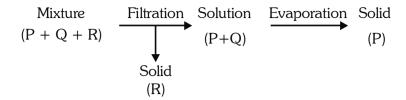


Which of the following properties of the net are highlighted in the picture?

- (1) It sinks in water.
- (2) It does not tear easily.
- (3) It does not absorb water.
- (4) It allows light to pass through.



36. Study the given flowchart carefully,

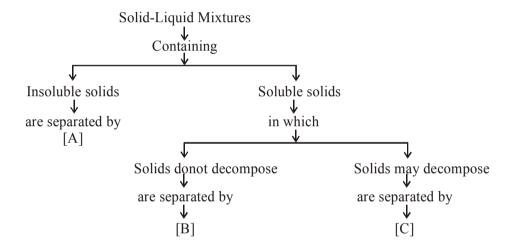


What could be P, Q and R respectively?

- (1) Chalk powder, Water, Salt
- (2) Salt, Water, Sugar

(3) Sugar, Water, Sawdust

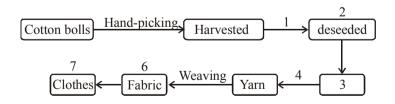
- (4) Sawdust, Water, Sugar
- 37. The flow chart of separation of mixture is given below.



Identify [A], [B] & [C] and choose the correct option.

[A]	[B]	[C]
(1) Sieving	Evaporation	Crystallisation
(2) Loading	Sieving	Evaporation
(3) Filtration	Evaporation	Crystallisation
(4) Filtration	Crystallisation	Evaporation

38. Study the chart given below showing the manufacture of cotton fabric



What should come in the place of the number 4?

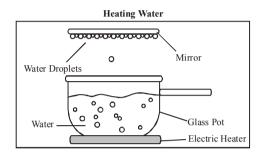
- (1) Fibre (2) Knitting
- (3) Spinning (4) Dyeing



- 39. Which of the following fibres upon burning smells like burning paper?
 - (i) Cotton
- (ii) Silk
- (iii) Flax

- (iv) Wool
- (v) Fur
- (vi) Jute

- (1) (i), (iii) & (vi)
- (2) (ii), (iv) & (v)
- (3) (i), (ii), (iv) & (vi)
- (4) (iv) & (v)
- **40.** The volume of water in the pot decreases during this investigation. Water droplets form on the mirror when positioned over the pot. In this setup, water



- (1) vaporizes and then freezes
- (2) vaporizes and then condenses
- (3) condenses and then vaporizes
- (4) freezes and then vaporizes
- 41. Increase in carbon dioxide gas in atmosphere causes
 - (1) Global warming

(2) Heavy rain

(3) Deforestation

- (4) None of these
- **42.** Match the column I with column II and select the correct option from the codes given below.

Column I

Column II

- (a) Removal of larger particles from smaller ones
- (i) Sieving

(b) Separation of cream from milk

- (ii) Filtration
- (c) Separation of a mixture of mud and water
- (iii) Churning

(d) Separation of grains from stalks

(iv) Threshing

- (1) (a)- (i), (b) (ii), (c) (iii), (d) (iv)
- (2) (a)- (ii), (b) (iii), (c) (iv), (d) (i)
- (3) (a)- (i), (b) (iii), (c) (ii), (d) (iv)
- (4) (a)- (iv), (b) (ii), (c) (iii), (d) (i)
- 43. Nazia divided some substances into two groups as shown below.

Group 1	Group 2
Wool	Oil
Cotton	Mercury
Paper	Iron

How did Nazia group the substances?

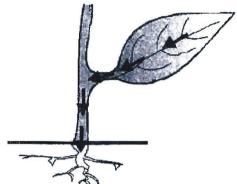
- (1) Things that are soft and things that are hard
- (2) Things that are natural and things that are not
- (3) Things that absorb water and things that do not
- (4) Things that are opaque and things that are not opaque



SECTION-C: BIOLOGY

This section contains 12 Multiple Choice Questions. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

44. The diagram below shows a plant.



The arrows in the diagram show the path taken by the (1) food (2) water (3) sunlight (4) carbon dioxide 45. Which of them is not a mammal? (1) Blue whale (2) Asiatic elephant (3) Tortoise (4) Bat 46. Beriberi is a condition caused by the deficiency of a vitamin in our body. A regular intake of which of these food items will help in preventing it? (1) Milk and milk products - rich in vitamin D (2) Wheat, peas, green vegetables - rich in vitamin B1 (3) Sweet potatoes, carrots, radish - rich in vitamin A (4) Citrus fruits, tomatoes - rich in vitamin C **47.** The respiratory system in human consists of . (iii) Lungs (iv) Wind pipe (i) Nose (ii) Heart (4) (i), (iii) and (iv) (1) (i) and (ii) (2) (ii) and (iii) (3) (i) and (iv) 48. Moist skin Lives both on land and in water Breathe through gills when young The animal described above belongs to which of the following group? (1) Mammals (2) Fish (3) Amphibians (4)Aves 49. Read the information given below. P: Supplies materials for building cells Q : Supplies a lot of energy R: Supplies high amount of dietary fibers Which of the following food combinations is correct according to the definitions of P, Q and R? P Q R (1) Fish Sunflower oil Lettuce (2) Beans Butter Potato Whole grains (3) Meat Butter

Butter

(4) Potato

Fish

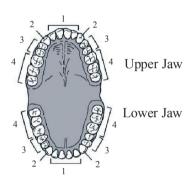


50. The chart below shows food sources for several organisms.

Organisms	Food Source
Deer	plants
Wolves	other animals
Musk oxen	plants
Bears	plants and other animals
Plants	make their own food

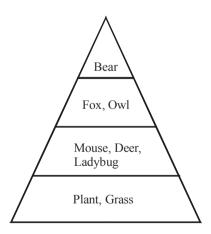
Which food chain is based on the information in the chart?

- (1) Bears \longrightarrow plants \longrightarrow musk oxen
- (2) Wolves \longrightarrow bears \longrightarrow deer
- (3) Deer \longrightarrow musk oxen \longrightarrow plants
- (4) Plants \longrightarrow deer \longrightarrow wolves
- 51. The teeth that people use for grinding and crushing their food are labelled in the picture as



- (1) 1 only
- (2) 3 only
- (3) 1 and 2
- (4) 3 and 4

52. An energy pyramid is shown below.

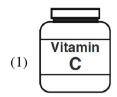


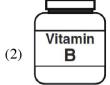
Which of the following correctly describes the flow of energy in the pyramid?

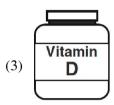
- (1) The grass and trees get energy from ladybugs.
- (2) The owl and fox get energy from mice.
- (3) The fox gets energy from bears.
- (4) The deer gets energy from owls.

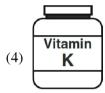


53. Which of the following is manufactured by your skin when it is exposed to sunlight?

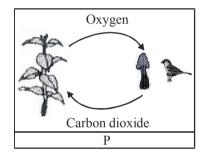


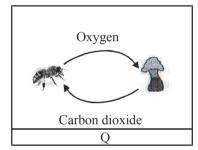


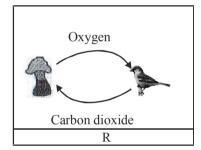




54. Which of the following shows the correct flow of gases from one organism to the other?







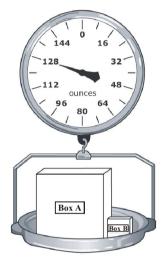
- (1) Only P
- (2) Only Q and R
- (3) Only P and Q
- (4) P, Q and R
- 55. Bunty eats a lot of ice creams, butter and oily food. Excess intake of fatty food may lead to
 - (1) Anaemia
 - (2) Tuberculosis
 - (3) Goitre
 - (4) Obesity



SECTION-D: MATHEMATICS

This section contains **25 Multiple Choice Questions.** Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

- 56. In a pictograph, if the symbol represents 125 students, then the picture is equivalent to
 - (1) 200 students
- (2) 175 students
- (3) 225 students
- (4) 300 students
- 57. Rob weighed 2 boxes. The combined weight of the boxes is shown on the scale below. The ratio of the weight of Box A to the weight of Box B is 3:1. Which of the following is closest to the weight of Box A?



- (1) 126 oz
- (2) 42 oz
- (3) 32 oz
- (4) 96 oz
- **58.** If a, b, c and d are four positive real numbers such that sum of a, b and c is even and the sum of b, c and d is odd, then $a^2 d^2$ is necessarily
 - (1) odd
- (2) even
- (3) prime
- (4) either (1) or (2)
- **59.** The pictograph below shows the number of cars in a school parking lot for four days.

Cars in Parking Lot				
	Number of Cars			
Monday				
Tuesday				
Wednesday	5			
Thursday				
KE	KEY			
=	5 cars			

How many more cars were in the school parking lot on Monday than on Wednesday. Also find the cost of cars that were parked on parking lot in four days, if cost of 1 car is Rs.85,000.

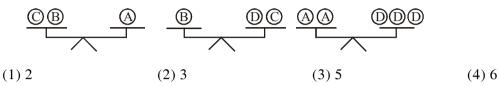
- (1) 3, Rs.42,5000
- (2) 15, Rs.42,5000
- (3) 15, Rs.51,00,000
- (4) 20, Rs.2,12,500



- **60.** The triangle ABC and PQR may not be congruent when

 - (1) AB = PQ, AC = PR, $\angle A = \angle P$ (2) AB = PQ, AC = PR, Altitude AD = Altitude PS

 - (3) AB = PQ, AC = PR, \angle B = \angle Q (4) \angle A = \angle P, \angle B = \angle Q, Altitude AD = Altitude PS
- 61. How many weights C can balance the weight B?



62. The following pictograph represents the daily production of computers in a factory for different days of a week:

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday



represents 200 computers

Now answer the following questions:

- (a) Find the total number of computers produced in the factory during the week.
- (b) On which day minimum number of computers manufactured?
- (c) On which day maximum number of computers manufactured?
- (d) How many less computers were manufactured on Saturday than on Friday?

(1) (a) 7000

(b) Thursday

(c) Saturday

(d) 100

(2) (a) 3500

(b) Tuesday

(c) Saturday

(d) 200

(3) (a) 7000

(b) Saturday

(c) Thursday

(d) 100

(4) (a) 700

(b) Tuesday

(c) Saturday

(d) 200

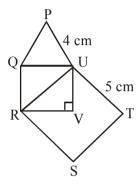


- **63.** If a bicycle wheel makes four and a half turns, then the number of right angles through which it turns is
 - (1) 16

(2) 18

(3) 20

- (4) 8
- **64.** In the diagram, PQU is an equilateral triangle, QRVU is a rectangle and RSTU is a rhombus. The area of rectangle QRVU is 12 cm².



Find the perimeter, in cm, of the whole diagram.

(1) 17

(2) 21

(3) 26

- (4) 30
- **65.** The sum of five consecutive positive integers is always divisible by
 - (1) 2

(2) 3

(3) 5

- (4) 10
- **66.** What is the digit in the ten's place in the product of the first 35 even natural numbers?
 - (1) 6

(2) 2

(3) 0

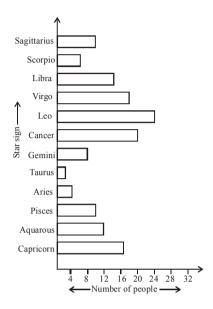
- (4) 5
- 67. Madan picks up three different digits from the set $\{1, 2, 3, 4, 5\}$ and forms a mixed number by placing the digits in the spaces $\frac{1}{2}$. The fractional part of the mixed number should be less than 1 (for example $4\frac{2}{3}$). What is the difference between the largest and smallest possible mixed number that can be formed?
 - (1) $4\frac{7}{20}$

(2) $4\frac{3}{10}$

 $(3) 4 \frac{9}{20}$

(4) $4\frac{3}{5}$

68. The following bar graph shows the star sign of people in a locality. Observe the bar graph and answer the following questions



- (a) How many people have star sign Virgo?
- (b) How many people have star sign Pisces?
- (c) Which is the most common star sign for the people of the locality?
- (d) Under which star there are equal number of people?
- (1) (a) 16
- (b) 8

- (c) Aries
- (d) Libra & virgo

- (2) (a) 16
- (b) 12

- (c) Cancer
- (d) Virgo & Cancer

- (3) (a) 18
- (b) 20
- (c) Virgo
- (d) Virgo & Taurus

- (4) (a) 18
- (b) 10

- (c) Leo
- (d) Pisces & Sagittarius
- **69.** How many one thirds need to be added to $3\frac{1}{3}$ to make 5?
 - (1) 2

(2) 1

(3) 3

- (4) 5
- **70.** What is the difference between the greatest and the smallest four-digit number using four different digits with the condition that 5 occurs at ten's place.
 - (1) 8703
- (2) 8805
- (3) 8705
- (4) 8810



71.	Trees grow on only one side of Park Avenue. There are 60 trees in total. Every second tree is a maple,
	and every third tree is either a linden or a maple. The remaining trees are birches. How many birches
	are there?

(1) 10

(2) 15

(3) 20

(4) 24

72. The table below shows the cost of mailing packages that weigh different amounts.

Cost of Mailing Packages

Package Weight (ounces)	Cost
Up to 1.00	\$1.17
1.01 to 2.00	\$1.34
2.01 to 3.00	\$1.51
3.01 to 4.00	\$1.68
4.01 to 5.00	\$1.85

If the cost continues to increase as shown in the table, how much will it cost to mail a package that weighs exactly 11 ounces?

(1) \$2.87

(2) \$4.87

(3) \$3.04

(4) \$5.87

73. The given pictograph shows the number of students in a university who speak the following five languages: English, Hindi, Tamil, Punjabi, Telugu.

How many students speak Hindi and Telugu?

English	0000
Hindi	000
Tamil	0
Punjabi	00
Telugu	000

Scale : One \bigcirc represents 100 students.

(1)475

(2) 500

(3) 600

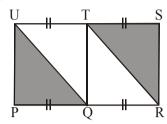
(4) 550

- **74.** From the set $\{2,3,4,5,6,7,8,9\}$, how many pairs of co-primes can be formed?
 - (1) 19

(2) 18

(3) 20

- (4) 21
- 75. In the diagram, PRSU is a rectangle.



Given that PR = 16 cm and RS = 5 cm, find the area of the shaded region (in cm²).

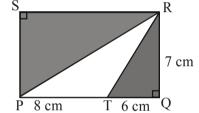
(1) 40

(2) 60

(3) 80

(4) 100

76.



PQRS is a rectangle. Find the area of the shaded portion (in cm²).

(1) 70

(2)78

(3) 80

- (4) 89
- 77. The simplification of $2.002 + 7.9\{2.8 6.3(3.6 1.5) + 15.6\}$ yields
 - (1) 2.002

(2) 4.2845

(3) 40.843

- (4) 42.845
- **78.** A string is used to make a reactangle of length 25 cm and breadth 15 cm. If the same string is bent into an octagon, find the length of the side of the octagon.
 - (1) 8 cm

(2) 10 cm

(3) 9 cm

(4) 11 cm

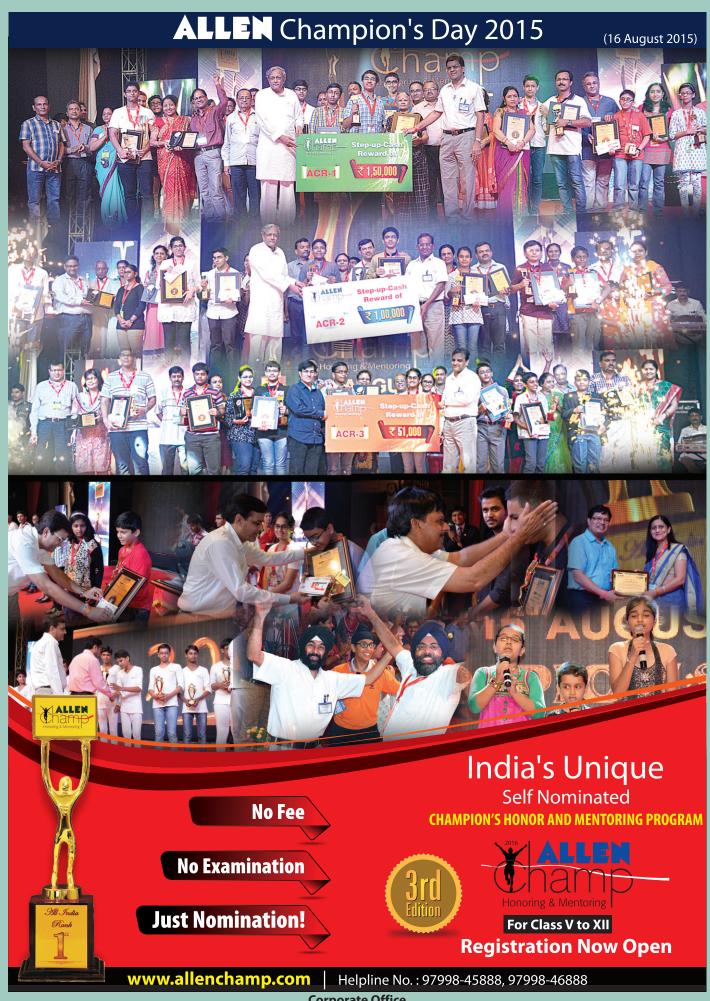


79.	The greatest number of four digits which is divi-	sible by 15, 25,40 and 75 is
	(1) 9000	(2) 9400
	(3) 9600	(4) 9800
80.	The largest negative integer is	
	(1) Infinite	(2) 0
	(3) –999999	(4) –1



SPACE FOR ROUGH WORK

20/20 _____



Answer Key



Class- 6th (VI)

Held on: 18 October 2015

Q. No.	Ans.
1	4
2	3
3	2
4	2
5	2
6	2
7	2
8	3
9	1
10	2
11	4
12	2
13	3
14	4
15	1
16	1
17	2
18	1
19	2
20	1

Q. No.	Ans.
21	4
22	1
23	2
24	2
25	3
26	3
27	4
28	4
29	4
30	1
31	1
32	2
33	3
34	3
35	4
36	3
37	3
38	3
39	1
40	2

Q. No.	Ans.
41	1
42	3
43	3
44	1
45	3
46	2
47	4
48	3
49	3
50	4
51	4
52	2
53	3
54	1
55	4
56	4
57	4
58	1
59	3
60	3

Q. No.	Ans.
61	3
62	3
63	2
64	3
65	3
66	3
67	1
68	4
69	4
70	2
71	3
72	1
73	4
74	1
75	1
76	1
77	4
78	2
79	3
80	4

