

# National Level Science Talent Search Examination - 2012

**Class : V**

**Mathematics**

**1** What are the two consecutive prime numbers whose difference is 2 called ?

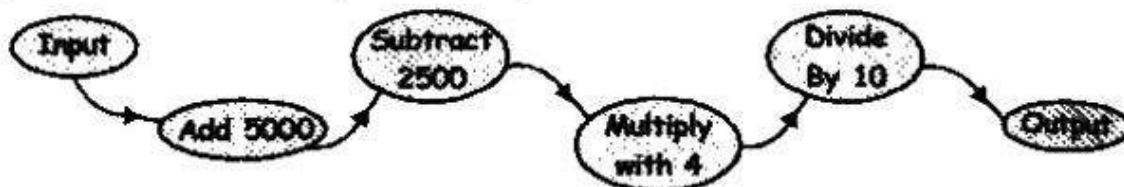
(A) Twin primes

(B) Even primes

(C) Co - primes

(D) Odd primes

**2** The drawing below is an input - output machine.



Using this machine, when the input is 1500, what is the output?

(A) 1600

(B) 4000

(C) 4950

(D) 8000

**3** Mukram buys 15 sandwiches at ₹ 225. How much amount Irfan has to pay to buy 21 such sandwiches?

(A) ₹ 205

(B) ₹ 215

(C) ₹ 305

(D) ₹ 315

**4** What is the place value of 3 in the sum of 5.25 and 3.38?

(A)  $\frac{3}{10}$

(B)  $\frac{3}{100}$

(C)  $\frac{3}{1000}$

(D) 0

**5** What is the L.C.M. of 50, 70 and 30?

(A) 10

(B) 75

(C) 1050

(D) 2050

**6** The product of L.C.M. and H.C.F. of two numbers is 285. If one number is 15, then find the other number.

(A) 15

(B) 16

(C) 18

(D) 19

**7** What number should be added to 73420 to get 91369?

(A) 17949

(B) 27949

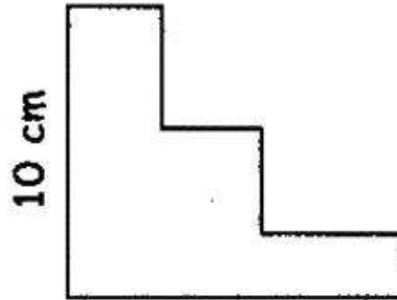
(C) 21949

(D) 104789

- 8 A school needs 26,720 pencils a year. How many boxes must the school buy? (Each box has 25 pencils.)

(A) 1068 (B) 1069 (C) 1067 (D) 2036

- 9 What is the perimeter of the figure below?



- (A) 22 cm (B) 44 cm  
(C) 120 cm (D) Data is insufficient

- 10 The length of a rectangle is  $\frac{7}{5}$  of its breadth. If its perimeter is 144 m, what is its area?

(A) 1260 m<sup>2</sup> (B) 1620 m<sup>2</sup> (C) 1800 m<sup>2</sup> (D) 2340 m<sup>2</sup>

- 11 The greater number in subtraction is called:

(A) Subtrahend (B) Minuend  
(C) Dividend (D) Quotient

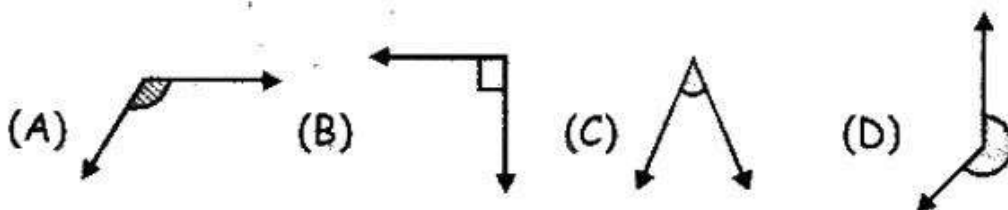
- 12 Which of the following numbers is divisible by 24?

(A) 88888 (B) 76542 (C) 301632 (D) 30567

- 13 What is the average of first ten even numbers?

(A) 10 (B) 11 (C) 12 (D) 20

- 14 Which of the following is an acute angle?



**15** Which expression is true?

- (A)  $\frac{1}{5} > 0.2$     (B)  $\frac{1}{4} < 0.25$     (C)  $\frac{1}{4} > 0.5$     (D)  $\frac{1}{4} > 0.2$

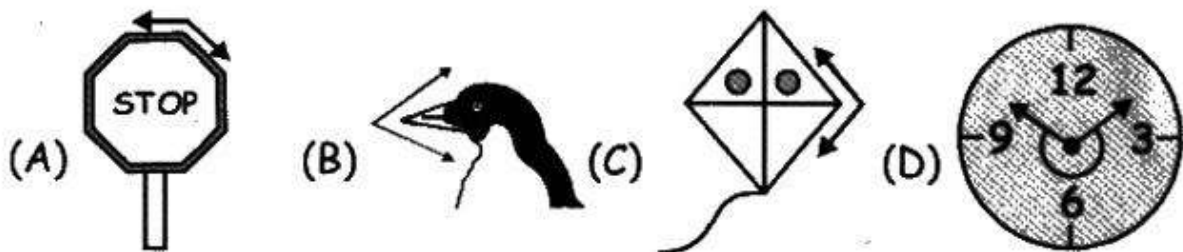
**16** Which of the following are supplementary angles?

- (A)  $40^\circ$  and  $50^\circ$                       (B)  $35^\circ$  and  $155^\circ$   
(C)  $0^\circ$  and  $180^\circ$                       (D)  $70^\circ$  and  $90^\circ$

**17** Which types of lines lie on the same plane and do not intersect at any point?

- (A) Perpendicular lines                      (B) Parallel lines  
(C) Intersecting lines                      (D) Imaginary lines

**18** All angles shown in the figures are obtuse EXCEPT.



**19** Jaya sold a book for ₹ 530 at a profit of ₹ 63. What was the cost of the book?

- (A) ₹ 467                      (B) ₹ 473                      (C) ₹ 567                      (D) ₹ 593

**20** To get a quotient of 50, what number should be divided by 19?

- (A) 900                      (B) 950                      (C) 1360                      (D) 1900

**21** How many millions make 10 crores?

- (A) 1                      (B) 10                      (C) 100                      (D) 1000

**22** What is the difference of the greatest 7 digit number and the smallest 5 digit number?

- (A) 9, 98, 099                      (B) 99, 899  
(C) 9, 98, 999                      (D) 99, 89, 999

**23** What is the H.C.F. of 242, 484 and 363?

(A)  $11 \times 2 \times 3$

(B)  $11 \times 11 \times 2$

(C)  $11 \times 11$

(D) 11

**24** Aayesha made a profit of ₹ 395 on a necklace she sold for ₹ 6235. At what price did she buy it?

(A) ₹ 7777      (B) ₹ 5840      (C) ₹ 6630      (D) ₹ 9999

**25** Find the difference in time between 06 : 45 a.m. and 07 : 25 p.m.

(A) 40 minutes

(B) 10 hours, 40 minutes

(C) 13 hours, 30 minutes

(D) 12 hours, 40 minutes

**26** If reciprocal of a number is  $1\frac{4}{7}$ , then what is that number?

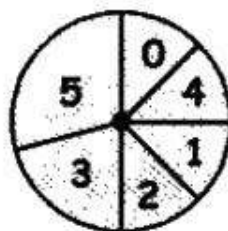
(A)  $1\frac{7}{4}$

(B)  $\frac{17}{4}$

(C)  $\frac{11}{7}$

(D)  $\frac{7}{11}$

**27** Identify the number of the only segment which has obtuse angle in the below figure.



(A) 2

(B) 4

(C) 5

(D) 3

**28** How many numbers containing 8 in their tens place are there between 300 and 400?

(A) 9

(B) 10

(C) 19

(D) 20

**29** If the H.C.F. of two numbers is 1, then they are called:

(A) Prime numbers

(B) Composite numbers

(C) Co - prime numbers

(D) Odd numbers

30 Which number is equal to  $\left(\frac{0.7}{0.07} + \frac{0.07}{0.7}\right)$ ?

- (A) 70.7 (B) 10.1 (C) 77.7 (D) 10.7

31 What is the sum of 12.8, 14.62 and 23.003?

- (A) 50.423 (B) 49.423 (C) 49.473 (D) 50.083

32 Which of the following is obtained when 1690 is rounded to the nearest thousand?

- (A) 1700 (B) 2000 (C) 1600 (D) 1000

33 Find the value of the expression below.

$$\frac{2012 + 2012 + 2012 + 2012 + 2012 + 2012 + 2012}{2012 + 2012 + 2012 + 2012}$$

- (A) 6036 (B) 2012 (C)  $\frac{4}{7}$  (D)  $1\frac{3}{4}$

34 In a semi-final match against Pakistan, runs scored by M.S.Dhoni was divisible by 11, 7 and 2. If the total score of India is 302 runs, then find the runs scored by M.S. Dhoni is:

- (A) 144 (B) 154 (C) 124 (D) Data is not sufficient

35 Write the Roman numeral for 24.

- (A) XXVI (B) XXIV (C) XXIIII (D) XXXIV

36 Find the number which replaces ?.

$$\begin{array}{r} 9\ 1\ 2\ 3\ 1\ 4\ 5 \\ - \quad \boxed{\phantom{000000}} \phantom{000000} \\ \hline 3\ 4\ 2\ 6\ 0\ 5\ 9 \end{array}$$

- (A) 1349204 (B) 5697086 (C) 5769086 (D) 6834567

- 37 Four students Kartik, Hari, Akhil and Pavan wrote Roman numerals on their slates as given below.



Who wrote the least number?

- (A) Kartik (B) Hari (C) Akhil (D) Pavan

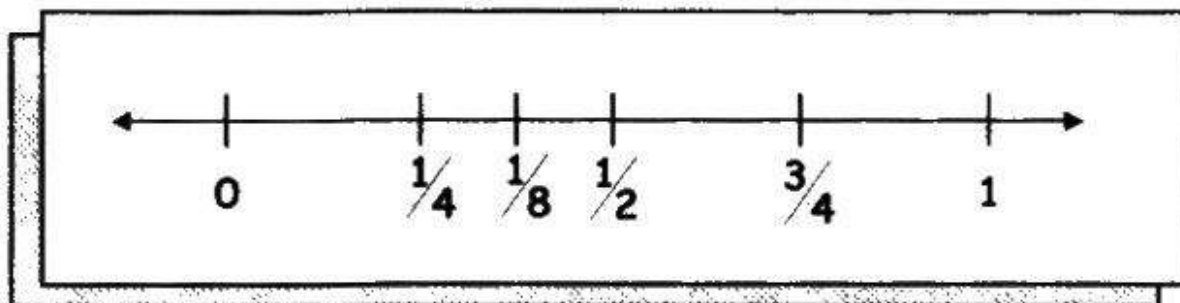
- 38 Which number is the successor of the smallest 6-digit number?

- (A) 1 00 000 (B) 10 001  
(C) 1 00 001 (D) 9 99 999

- 39 Which of the following statements is false?

- (A) If we join any two points on a circle, we get a diameter of the circle.  
(B) A diameter of a circle contains the centre of the circle.  
(C) The length of a circle is called its circumference.  
(D) A semicircle is an arc.

- 40 Which fraction on the number line below are in the wrong place?



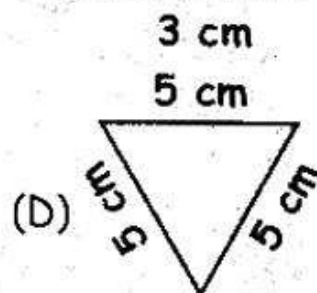
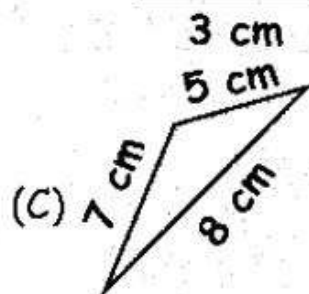
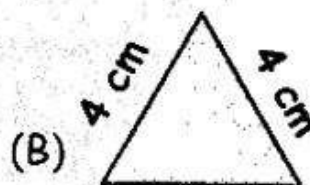
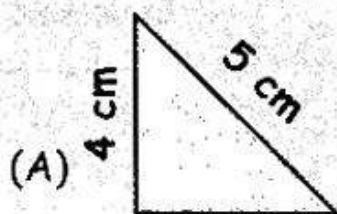
- (A)  $\frac{1}{4}$  (B)  $\frac{1}{8}$  (C)  $\frac{1}{2}$  (D)  $\frac{3}{4}$

- 41 What is the measure of the third angle in a right angled triangle, whose one angle is  $52^\circ$ ?

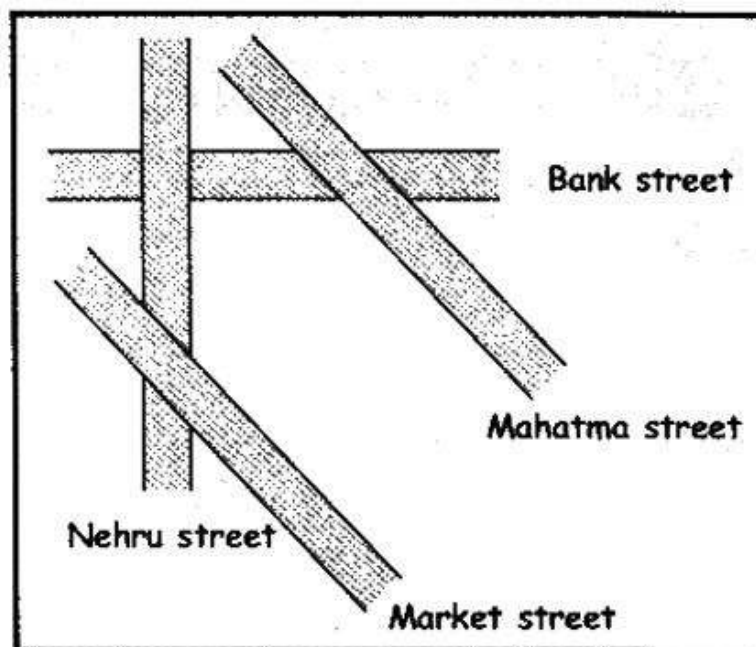
- (A)  $38^\circ$  (B)  $48^\circ$  (C)  $52^\circ$  (D)  $88^\circ$



**42** Which of the following triangles is equilateral?



**43** A map of four streets is shown below.



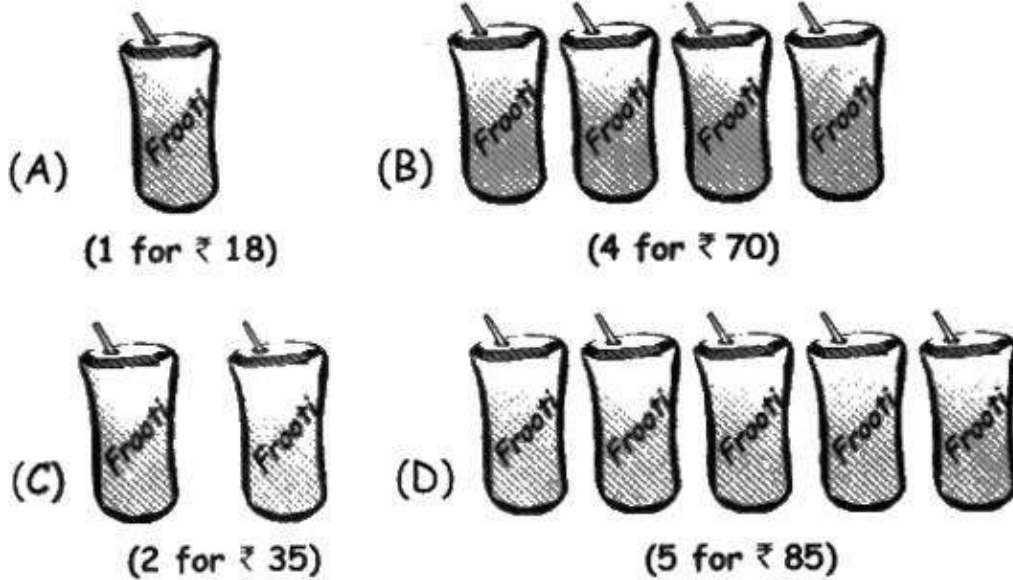
Which two streets appear to be perpendicular to each other?

- (A) Mahatma street and Market street.
- (B) Mahatma street and Nehru street.
- (C) Market street and Bank street.
- (D) Nehru street and Bank street.

**44** Which of the following rules is correct?

- (A)  $\text{Quotient} \times \text{Dividend} + \text{Remainder} = \text{Divisor}$ .
- (B)  $\text{Quotient} \times \text{Divisor} + \text{Remainder} = \text{Dividend}$ .
- (C)  $\text{Divisor} \times \text{Dividend} + \text{Remainder} = \text{Quotient}$ .
- (D)  $\text{Quotient} \times \text{Remainder} + \text{Dividend} = \text{Divisor}$ .

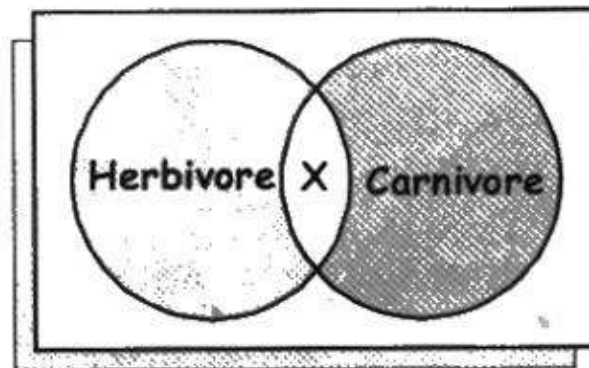
**45** Find the better buy.



**Class : V**

**General Science**

**46** Observe the venn diagram given below.



'X' is most probably a:

- (A) Tiger      (B) Deer      (C) Giraffe      (D) Bear

**47** Which of the following helps to move turbines at electric power stations to produce electricity?

- (A) Water      (B) Wind      (C) Air      (D) Chemicals

**48** Which of the following activities is due to the force of gravity?

- (A) Train running on track.      (B) An apple falling from a tree.  
(C) A flying bird.      (D) A ball rolling on the ground.



- 49** Match the following words in Column-I with their answers in Column-II.

	Column I		Column II
a	Force	i	Chemical energy
b	Battery	ii	A push or a pull
c	Energy	iii	Energy in standing water
d	Dam	iv	Capacity of doing work.

- (A) a-i, b-ii, c-iii, d-iv      (B) a-iv, b-iii, c-ii, d-i  
(C) a-ii, b-i, c-iv, d-iii      (D) a-iii, b-ii, c-i, d-iv

- 50** Which of the following helps to fill medicine in syringe?

- (A) Chemical energy      (B) Hardness of needle  
(C) Muscular energy      (D) Air pressure

- 51** Information given below is about the composition of air.

Composition of Air	
Nitrogen	79%
Oxygen	16%
Carbon dioxide	4.5%

Given composition of air is present at which of the following situations?

- (A) At the forest      (B) Near a park  
(C) Exhaled air in a room      (D) Near a nursery

- 52** Which of the following activities cause pollution of air ?

- (A) Carbon dioxide released by human beings and plants.  
(B) Smoke released by factories, thermal plants and automobiles.  
(C) Growing grass plants.  
(D) Washing animals and clothes.

**53** Which of these is NOT a characteristic feature of aquatic animals?

- (A) Dry skin with hair (B) Gill chambers  
(C) Moist skin (D) Webbed toes

**54** Light, small and dry seeds are dispersed by which of the following seed dispersal mechanisms?

- (A) Water (B) Explosive mechanism  
(C) Animal (D) Wind

**55** Observe the groups in the table given below.

Plant eater	Animal eater
Deer	Snake
Rabbit	Fox

An animal 'X' can be placed in both groups. Which of the following animals could 'X' be?

- (A) Goat (B) Elephant (C) Rat (D) Vulture

**56** Which of the following is a decomposer and grows well in dark and moist places?

- (A) Duckweed (B) Mould (C) Hydrilla (D) Wolffia

**57** Which of the following can occur due to the entry of germs through cut skin?

- (A) Tetanus (B) Jaundice  
(C) Dysentery (D) Whooping cough

**58** The information given below is about the characteristics of a type of soil.

- ▲ Has large particles and big air spaces
- ▲ Good oxygen supply
- ▲ Water can drain quickly

Which of the following crops can be grown in the soil described above?

- (A) Maize (B) Coconut (C) Paddy (D) Groundnut

**59** Which of the following is the best hiding place for a tiger?

- (A) Small grass plants                      (B) Deep burrows  
(C) Tall grasses                              (D) Sand

**60** Which of the following animals is called "Ship of the desert"?

- (A) Bear                      (B) Yak                      (C) Camel                      (D) Zebra

**61** The frog is able to live on land and in water due to the presence of which of the following organs?

- (A) Gills                                      (B) Scales on its body  
(C) Webbed toes                              (D) Fins

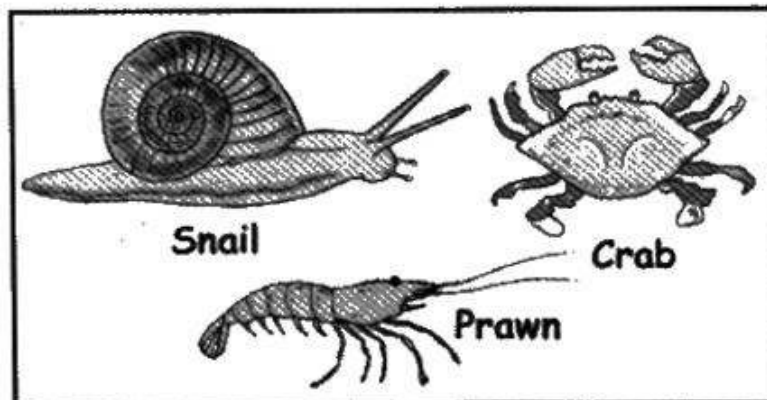
**62** Which of the following animals use gills as breathing organ?

- (A) Duck                      (B) Frog                      (C) Fish                      (D) Tortoise

**63** Choose the odd one from the following.

- (A) Snake                      (B) Lizard                      (C) Frog                      (D) Rat

**64** The animals given below are similar as they have:



- (A) Scales                      (B) Feelers                      (C) Shells                      (D) Moist skin

**65** Which of the following factors affect the rate of evaporation of water?

- (A) Wind                                      (B) Temperature  
(C) Surface area                              (D) All of these

**66** Which of the following causes soil erosion?

- (A) Trees                      (B) Rocks                      (C) Floods                      (D) Grass plants

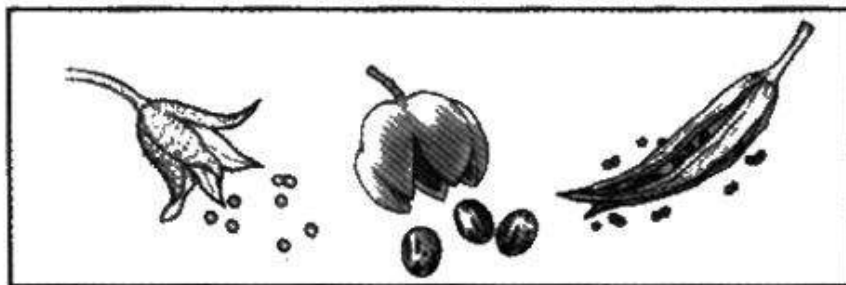
- 67** Which of these need to be pollinated and fertilised before they produce seeds?
- (A) Vegetative buds (B) Fruits  
(C) Pollen grains (D) Ovule
- 68** Which of the following is the easiest method to separate a mixture of iron filings and saw dust?
- (A) Adding water to the mixture.  
(B) Heating the mixture.  
(C) Handpicking the sawdust.  
(D) Using a magnet.
- 69** Which of the following types of soil is suitable to grow crop plants?
- (A) Sandy soil (B) Loam soil  
(C) Silt (D) Clay soil
- 70** Which of the following diseases can occur due to the entry of germs through contaminated water?
- (A) Leprosy (B) Whooping cough  
(C) Cholera (D) Tuberculosis
- 71** Which of the following is present in a cloud ?
- (A) Carbon dioxide gas (B) Nitrogen gas  
(C) Tiny water droplets (D) Oxygen gas
- 72** The land reclaimed after landfill can be used for which of the following processes ?
- (A) Building park (B) Practising agriculture  
(C) Drilling wells (D) Construct water tank
- 73** Which of the following processes increases soil fertility ?
- (A) Crop rotation only. (B) Using organic manure.  
(C) Growing pea plants only. (D) All of the above

- 74** Abhi dissolved some sugar and salt in water. He got a mixture of sugar, salt and water. What is the solvent in the experiment?
- (A) Sugar (B) Salt  
(C) Water (D) Sugar and salt solution

- 75** Which of the following characteristics is not suitable to desert habitat ?
- (A) Presence of large hump on its back.  
(B) Thick layer of fur on the skin.  
(C) Pad like feet.  
(D) Thick and dry skin.

- 76** Which of the following forms of energy is produced when fireworks are burnt ?
- (A) Kinetic energy (B) Chemical energy  
(C) Light energy (D) Mechanical energy

- 77** Which of the following dispersal agents helps the fruits given below to disperse their seeds ?



- (A) Explosive mechanism (B) Animals  
(C) Wind (D) Water
- 78** Which of these processes does not absorb heat ?
- (A) Boiling (B) Evaporation  
(C) Melting (D) Condensation
- 79** Which of the following statements is not TRUE about lotus plant ?
- (A) Spongy and swollen leaf stalks.  
(B) Needle like leaves.  
(C) Stomata on the upper surface of leaves.  
(D) Leaves coated with wax.

**80** Which of the following joints helps in the rotation of arm in a full circle ?

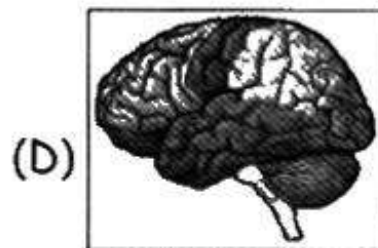
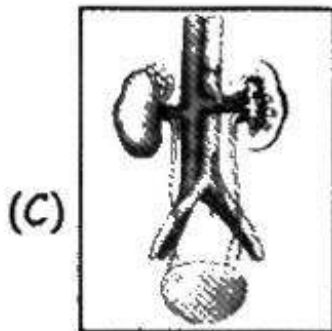
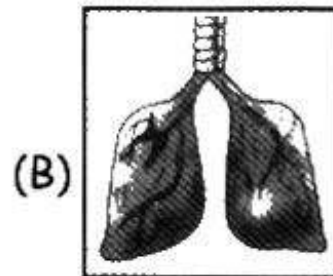
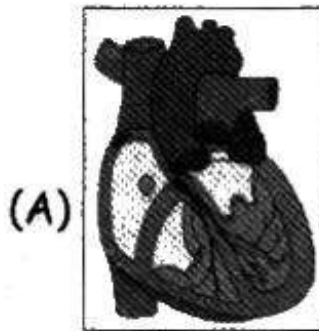
(A) Gliding joint

(B) Ball and socket joint

(C) Pivot joint

(D) Hinge joint

**81** Which of the following organs in the human body controls the entire body ?



**82** Shreya made the following notes about a plant.

Stem contains water and leaves are small and needle like. Long roots grow deep into the ground.

In which of the following habitats do we find the plant described above ?

(A) On mountains

(B) In polar regions

(C) In deserts

(D) In forests



**83** Which of the following animals lives in deserts ?

(A)



(B)



(C)



(D)



**84** Observe the table given below.

<b>P</b>	Plant eating animals
<b>Q</b>	Animals eating flesh of other animals
<b>R</b>	Both plant and animal eating
<b>S</b>	Organisms preparing their own food

Which of the following best represents heterotrophs ?

(A) P and S only

(B) Q and S only

(C) P, R and S only

(D) P, Q and R only

**85** Which part of the bear keeps it warm in cold weather ?

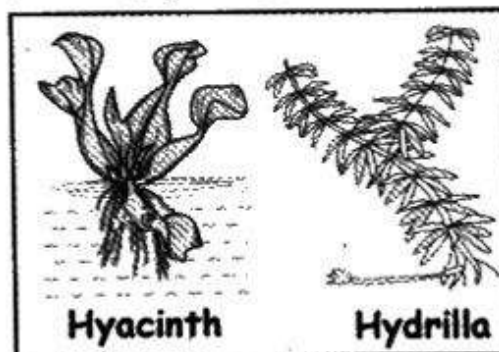
(A) Legs

(B) Hooves

(C) Fur

(D) Claws

**86** Observe the aquatic plants given below.



In which of the following ways are they different ?

(A) Colour

(B) Position in the pond

(C) Ability to make food

(D) Ability to produce oxygen

**87** Which of the following methods kill most of the microbes in drinking water?

- (A) Boiling
- (B) Mixing salt to water
- (C) Freezing
- (D) Filtration

**88** Study the characteristics given below.

- △ Trees are generally tall and straight
- △ They have needle like leaves and cone-like structures instead of flowers

Such trees are usually found in:

- (A) Hilly areas
- (B) Marshy areas
- (C) Forests
- (D) Grasslands

**89** A tooth decay results in bad breath, cavities and tooth ache. Which of the following causes tooth decay ?

- (A) Viruses
- (B) Fungi
- (C) Protozoa
- (D) Bacteria

**90** Which of the following is NOT a form of energy ?

- (A) Gravity
- (B) Light
- (C) Sound
- (D) Electricity

- 91** What is the full form of CNN?  
(A) Cable News Network (B) Cartoon Network News  
(C) Cable Network News (D) Cartoon News Network
- 92** What is the study of celestial bodies called?  
(A) Cytology (B) Physics (C) Astronomy (D) Biology
- 93** Which breed of dog is the cartoon character Scooby Doo?  
(A) Dalmatian (B) Pomerian (C) Great Dane (D) Alsetian
- 94** Which state is to the North of Andhra Pradesh ?  
(A) Karnataka (B) Madhya Pradesh  
(C) Kerala (D) Tamil Nadu
- 95** Which vitamin is present in amla?  
(A) Vitamin B (B) Vitamin C (C) Vitamin A (D) Vitamin B<sub>12</sub>
- 96** With which sport would you associate Deepika Padukone's father?  
(A) Cricket (B) Table tennis (C) Hockey (D) Badminton
- 97** Who invented the decimal notation in arithmetic?  
(A) The Romans (B) The Arabs  
(C) The Greeks (D) The Indians
- 98** Who wrote the book "Discovery of India"?  
(A) Mahatma Gandhi (B) Jawaharlal Nehru  
(C) Subhash Chandra Bose (D) R. K. Narayan
- 99** What is the full form of ATM ?  
(A) Automated Teller Machine  
(B) Any Time Money  
(C) Automatic Teller Machine  
(D) Authorised Transfer of Money
- 100** What is a shop that sells medicines called ?  
(A) Mall (B) Pharmacy (C) Boutique (D) Hospital