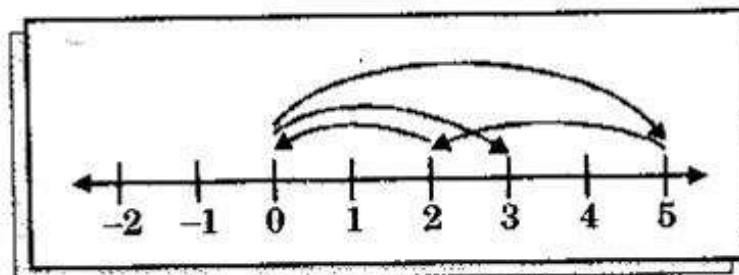


# National Level Science Talent Search Examination - 2012

**Class : VI**

**Mathematics**

- 1** What do we get when we subtract the difference of 15.13 and 9.7 from their sum?  
(A) 15.43      (B) 14.83      (C) 19.40      (D) 17.80
- 2** What is the simplification of  $47 - [(2 + 3) - 3 \{4 - 3(7 - 4 - 3)\}]$ ?  
(A) 100      (B) 94      (C) 82      (D) 0
- 3** A figure is said to be regular, if its sides are equal in length and angles are equal in measure. Can you identify the regular quadrilateral?  
(A) Parallelogram      (B) Rhombus  
(C) Square      (D) Rectangle
- 4** Which of the given numbers is the largest, when the digits in ten's and one's are interchanged with hundreds and thousands respectively?  
(A) 8865      (B) 8765      (C) 7865      (D) 7875
- 5** "I am 20<sup>th</sup> part of a rupee." Who am I?  
(A) ₹ 0.50      (B) ₹ 0.05      (C) ₹ 5.0      (D) ₹ 0.005
- 6** Which number sentence is true for the representation of integers on a number line below?



- (A)  $5 + 3 - 2 - 1$       (B)  $5 + (-3) + (2) + (-1)$   
(C)  $0 + 5 + 3 - 2 - 1$       (D)  $0 + 5 + (-3) + (-2) + 3$

**7** What is the estimate sum of 21396, 27808 and 42504 to the nearest ten?

- (A) 91710      (B) 91700      (C) 91720      (D) 91730

**8** Which of the following makes the sentence "100.1 \_\_\_\_\_ one hundred and one hundredths" true?

- (A) >      (B) <      (C) =      (D) ≤

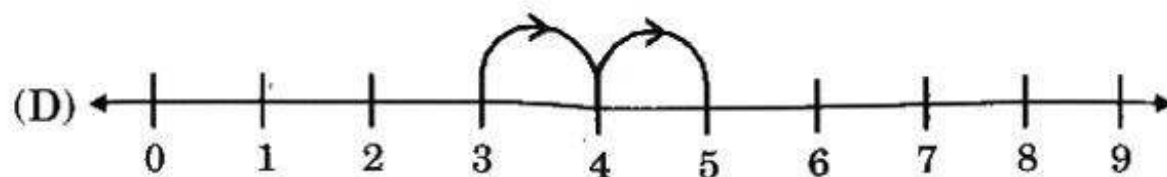
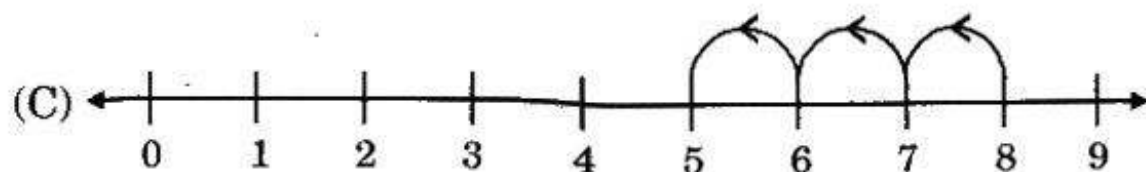
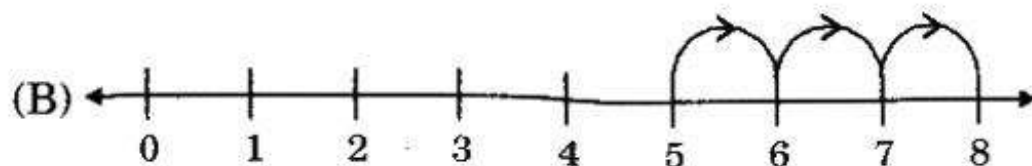
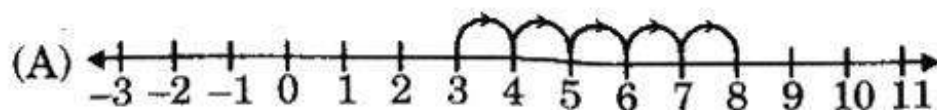
**9** Which of the following rule is not satisfied for Roman numerals?

- (A) V, L and D are never subtracted.  
(B) C can be subtracted from X, M, D and L.  
(C) Only I, X, C, M can be repeated.  
(D) No symbol can be repeated more than 3 times.

**10** Find the number of right angles through which the hour hand of a clock turns when it goes from 10 to 4.

- (A) 1      (B) 2      (C) 3      (D) 4

**11** Which number line correctly represent the statement "3 more than 5" ?
































- 12 In an examination, each student is required to answer 50 questions. 5 marks are given for each correct answer and 3 marks are deducted for every wrong answer. If Geeta answered 45 questions correctly and Sita answered 42 questions correctly, what is the difference in the total marks obtained by them? (Note that both answered 50 questions.)


(A) 15 (B) 210 (C) 24 (D) 186

- 13 What is the value of  $'8937 \times 648 + 8937 \times 122 + 8937 \times 230'$ ?

(A) 8937000 (B) 8936000 (C) 893800 (D) 8935000

- 14 The pictograph given below shows the number of deliveries made by a bakery during a week.

Day	Delivery
Monday	   
Tuesday	  
Wednesday	   
Thursday	     
Friday	  
Saturday	     
Sunday	  

Key : Each  represents 3 deliveries.

Which two consecutive days have a total of 30 deliveries?

- (A) Tuesday and Wednesday (B) Thursday and Friday  
(C) Friday and Saturday (D) Wednesday and Thursday

- 15 The centre of the circle always lies in the interior of a

- (A) semi - circle. (B) minor segment.  
(C) major segment. (D) minor arc.

- 16** Renu did  $\frac{1}{2}$  of the work yesterday and one-third of the work today. How much work will she have to do tomorrow to complete the work?

(A)  $\frac{5}{6}$  (B)  $\frac{6}{5}$  (C)  $\frac{2}{3}$  (D)  $\frac{1}{6}$

- 17** Which of the following will not represent zero?

(A)  $\frac{0}{2} \times 56$  (B)  $5687 \times 0$  (C)  $\frac{1002}{2} + 0$  (D)  $\frac{0}{679}$

- 18** Which solid has the greatest number of faces?

(A) Cone (B) Cylinder (C) Cube (D) Triangular prism

- 19**  $5*3523$  is exactly divisible by 13 and 77. Find the digit represented by \*.

(A) 1 (B) 2 (C) 3 (D) 4

- 20** Which of the following fractions is nearest to  $\frac{3}{5}$ ?

(A)  $\frac{499}{600}$  (B)  $\frac{299}{500}$  (C)  $\frac{599}{600}$  (D)  $\frac{399}{500}$

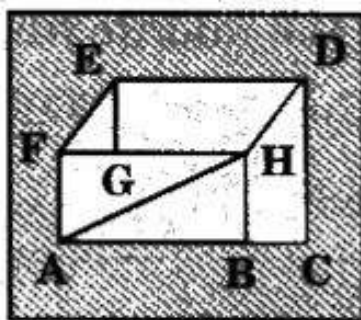
- 21** Vrunda packed 6 baskets with identical chocolates. It was the greatest number she could pack using all the chocolates. Which of these is her chocolate list?

(A) 36 Perks, 40 Fivestars, 42 Gems  
(B) 50 Perks, 54 Fivestars, 60 Gems  
(C) 30 Perks, 72 Fivestars, 84 Gems  
(D) 49 Perks, 40 Fivestars, 90 Gems

- 22** Which of the following set of fractions is in descending order?

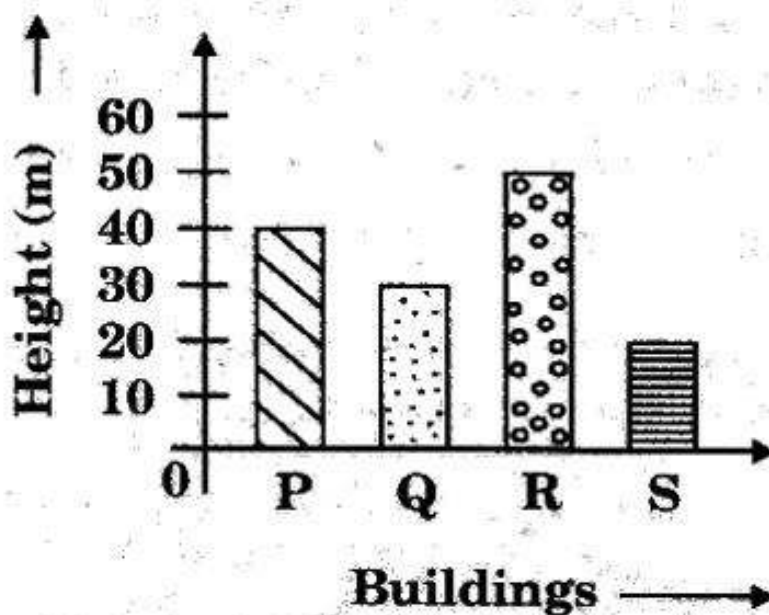
(A)  $5\frac{4}{7}, 5\frac{1}{2}, 4\frac{2}{3}, 4\frac{3}{4}$  (B)  $5\frac{1}{2}, 5\frac{4}{7}, 4\frac{3}{4}, 4\frac{2}{3}$   
(C)  $5\frac{4}{7}, 5\frac{1}{2}, 4\frac{3}{4}, 4\frac{2}{3}$  (D)  $5\frac{1}{2}, 5\frac{4}{7}, 4\frac{2}{3}, 4\frac{3}{4}$

- 23** Which of the following pairs of line segments shown in the figure is not parallel?



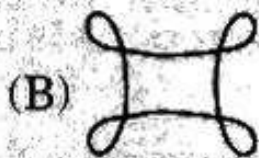
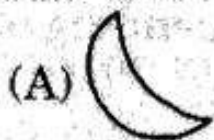
- (A) ED and FH  
(B) AF and BH  
(C) EF and DH  
(D) EF and AH

- 24** Which building is 20 m taller than the shortest?



- (A) P (B) Q (C) R (D) S

- 25** Which of the following is a simple closed figure?





**26** Which of the following measurements is made from the elbow to the tip of the middle finger?

- (A) Hand span (B) Cubit (C) Fathom (D) Hand

**27** Which of the following options is grouped wrongly?

	X	Y
(A)	Firefly	Housefly
(B)	Star	Moon
(C)	Metal spoon	Torch light
(D)	Glow-worm	Earthworm

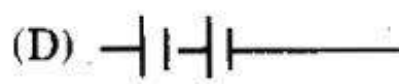
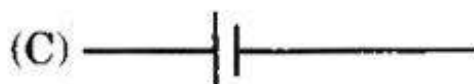
**28** Which of the following set of electrical components can be used to setup a simple electric circuit?

- (A) Wires, bulb, battery (B) Wires, switch, bulb  
(C) Bulb, battery, switch (D) Battery, switch, bulb

**29** In the morning, when the Sun rises from the east, in which direction will your shadow be cast?

- (A) East (B) West (C) North (D) South

**30** Identify the symbol of a cell.



**31** Which of the following cannot be measured using a measuring tape accurately?

- (A) The length of body parts.  
(B) The diameter of a basket ball..  
(C) Thickness of a paper.  
(D) The length of a curved line.

**32 Why cannot we see a burning candle by using a bent pipe?**

- (A) Light gets reflected.
- (B) Light gets absorbed.
- (C) Light travels in a straight line.
- (D) Light gets bent along the pipe.

**33 How many metres make 1 mm?**

- (A) 100                      (B)  $\frac{1}{1000}$                       (C) 1000                      (D)  $\frac{1}{10}$

**34 Which of the following statements is true?**

- (A) A battery consists of three terminals.
- (B) A switch can only break a circuit.
- (C) A bulb utilises electrical energy in a circuit.
- (D) The conducting wires are made of rubber.

**35 What kind of motion does the arms of a soldier marching along the road exhibit?**

- (A) Rotatory (B) Oscillatory (C) Translatory (D) Rectilinear

**36 Study the objects given below.**

- (i) Ground glass
- (ii) Oiled paper
- (iii) Wood

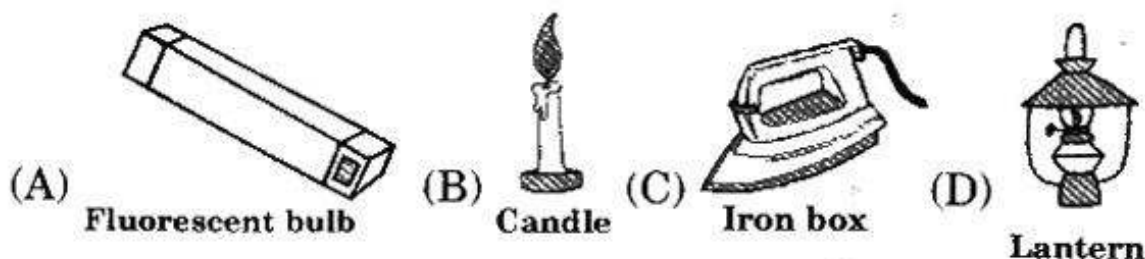
**Which of them are translucent objects?**

- (A) (i) and (ii) only                      (B) (ii) and (iii) only  
(C) (iii) and (i) only                      (D) (i), (ii) and (iii)

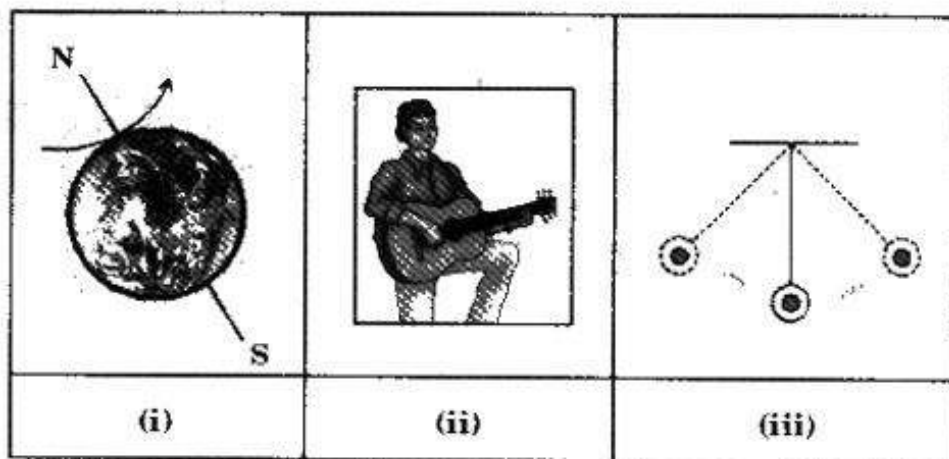
**37 Why do human beings get an electric shock?**

- (A) Human beings are good conductors of electricity.
- (B) Human beings can generate electricity.
- (C) Human beings have life.
- (D) Human beings are bad conductors of electricity.

**38** Which of the following is not a source of light when it is in use?



**39** Which of the following are in periodic motion?



(A) (i) and (ii) only

(B) (ii) and (iii) only

(C) (iii) and (i) only

(D) (i), (ii) and (iii)

**40** Which of the following happens when a given circuit is open?

- (i) Electricity will not flow.
  - (ii) Bulb does not glow.
  - (iii) Electrical wires melt.

(A) (i) and (ii) only

(B) (ii) and (iii) only

(C) (iii) and (i) only

(D) (i), (ii) and (iii)

**41** A drill bores a hole into a piece of wood. What kind of motion is described by the drill bit while boring a hole?

(A) Translatory motion

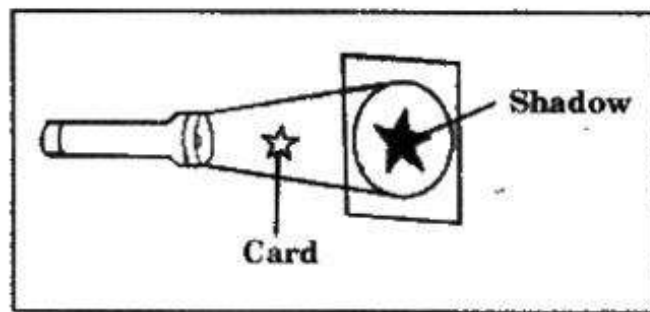
(B) Rotatory motion

(C) Vibratory motion

(D) Both (A) and (B)

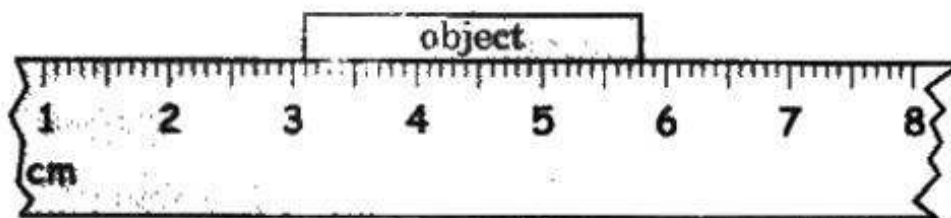


- 42** A torch shines onto a star-shaped card. A shadow is formed on the screen behind the card.



If the torch is moved away from the card, then what will happen to the shadow?

- (A) It becomes smaller.  
(B) It becomes larger.  
(C) It becomes smaller before it becomes larger.  
(D) It changes in shape.
- 43** Which of the following does not belong to the group formed by the others?
- (A) Iron      (B) Tin      (C) Glass      (D) Copper
- 44** Observe the figure given below.



Find the length of the object in mm.

- (A) 57 mm      (B) 37 mm      (C) 27 mm      (D) 0.27 mm
- 45** Which of the following are NOT the sources of light?

- (i) A planet
- (ii) A star
- (iii) A metal strip
- (iv) A burning candle

- (A) (i) and (ii) only      (B) (ii) and (iii) only  
(C) (iii) and (i) only      (D) (ii) and (iv) only

**46** What happens to a circuit when the switch is off?

- (A) The circuit is complete.
- (B) There is a gap in the circuit.
- (C) Electricity flows continuously.
- (D) Electricity flows discontinuously.

**47** Anil's father had three different wires.

J : 12 cm
K : 2.8 m
L : 203 mm

Which of the following options shows the arrangement of the wires from the longest to the shortest?

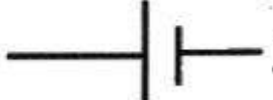
- (A) K → J → L
- (B) K → L → J
- (C) J → L → K
- (D) L → J → K

**48** What happens when light falls on a wooden chair?

- (A) Some part of light reflected from the chair enters our eyes.
- (B) Light passes through the wooden chair.
- (C) The chair sends a signal to our eyes that enables us to see it.
- (D) Electrical energy is given out by the chair.

**49** Which of the following statements is *incorrect*?

- (A) A dry cell produces a small amount of electrical energy.
- (B) A dry cell is used in TV remotes.
- (C) All dry cells are rechargeable.

(D) The symbol of a dry cell is 

**50** Which unit should be used to measure the distance between two cities?

- (A) metres
- (B) kilometres
- (C) centimetres
- (D) millimetres

**51 Which of the following is a physical change?**

- (A) Drying of clothes. (B) Rusting of iron.  
(C) Growth in plants. (D) Curdling of milk.

**52 Identify the element from the following**

- (A) Oxygen (B) Carbon dioxide  
(C) Water (D) Air

**53 Which of the following materials is hard, opaque and shines when freshly cut?**

- (A) Rubber (B) Wood (C) Tin (D) Plastic

**54 Which of the following changes is not a chemical change?**

- (A) Boiling of water. (B) Boiling an egg.  
(C) Burning a paper. (D) Burning a cloth.

**55 Clinical thermometers are made up of glass. Identify the characteristic(s) given below usually considered for its selection.**

- (A) It is a bad conductor of heat. (B) It is transparent.  
(C) It has low melting point. (D) It is brittle.

**56 While passing through a construction site, Sohail observed labourers throwing sand into a sieve. Identify the impurities that are separated out by this method.**

- |                |
|----------------|
| (i) Dry leaves |
| (ii) Sand      |
| (iii) Twigs    |

- (A) (i) and (ii) only (B) (ii) and (iii) only  
(C) (iii) and (i) only (D) (i), (ii) and (iii)

57

Study the information given below.

- (i) Physical state
- (ii) Density
- (iii) Size of constituents

Identify the physical properties from the given information.

- (A) (i) and (ii) only
- (B) (ii) and (iii) only
- (C) (iii) and (i) only
- (D) (i), (ii) and (iii)

58

In the figure given below, alcohol vapourises when taken in hand causing cooling sensation.



What can be inferred from the above figure?

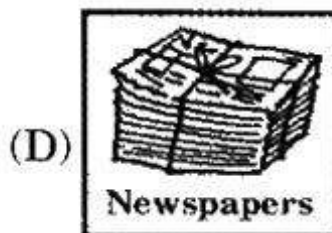
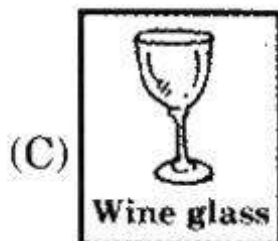
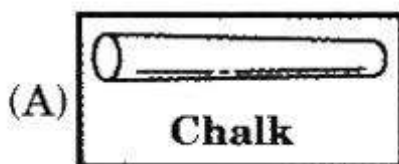
- (A) Alcohol undergoes a chemical change.
- (B) Alcohol undergoes a change in state.
- (C) Alcohol undergoes a change in colour.
- (D) Alcohol undergoes a change in odour.

59

Which instrument is used to obtain fine sand?

- (A) Magnet
- (B) Sieve
- (C) Measuring jar
- (D) Condensor

- 60** Which of the following objects will not break into pieces when dropped?



- 61** By which of the following processes is sugarcane juice concentrated?

(A) Evaporation (B) Winnowing (C) Threshing (D) Sieving

- 62** Mrs. Sinha observed that the photoframe on a wall has fallen down due to rusting of an iron nail. What kind of change did the iron nail undergo?

(A) Reversible physical change (B) Irreversible physical change  
(C) Irreversible chemical change (D) Reversible chemical change

- 63** Which of the following methods of separating mixtures basically needs air for the process?

(A) Hand picking (B) Winnowing  
(C) Sieving (D) Threshing

- 64** Clay is used for making pots and bricks. Which property of clay is useful in the above application?

- (i) Opacity, Non-magnetic  
(ii) Heat resistance  
(iii) Easy mouldability into different shapes.

(A) (i) and (ii) only (B) (ii) and (iii) only  
(C) (iii) and (i) only (D) (i), (ii) and (iii)



**65** Plaster of Paris (POP) hardens when applied over a bandage. What kind of process is this?

- (A) Reversible
- (B) Irreversible
- (C) Physical
- (D) Unnatural

**66** Study the following statements and then answer the question.

- (i) An iron needle sinks in water.
- (ii) An object either sinks or floats. It can depend on the material used for making it.

- (A) Statement (i) is correct while statement (ii) is incorrect.
- (B) Statement (i) is incorrect while statement (ii) is correct.
- (C) Both statements (i) and (ii) are correct.
- (D) Both statements (i) and (ii) are incorrect.

**67** Which of the following statement are true regarding a mixture?

- (A) Mixtures are always homogeneous.
- (B) In a mixture constituent substances are mixed chemically.
- (C) The constituents in a mixture retain their individual properties.
- (D) Mixtures have fixed melting points or boiling points.

**68** Rohan crumples a paper as shown below.



**What change is undergone by the paper?**

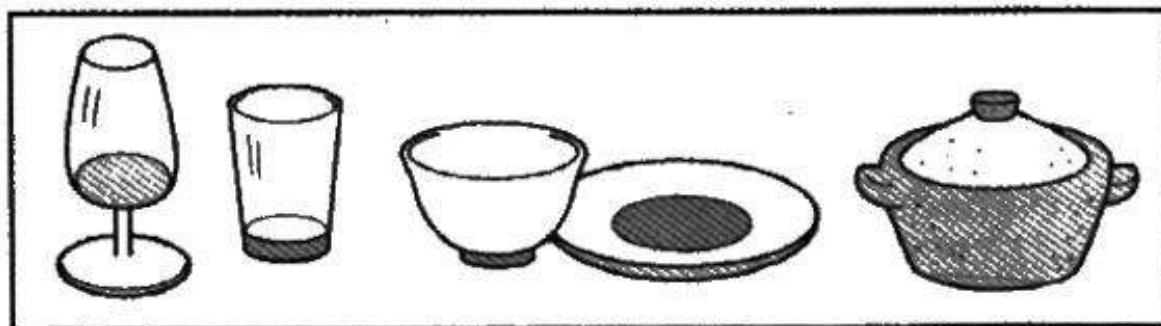
- (A) Change in position.                      (B) Change in colour.  
(C) Change in state.                        (D) Change in shape.

**69 Match the entries in Column-I with their methods of separation in Column-II.**

	Column - I			Column - II
(i)	Mixture of sand and water	( )	p	Hand picking
(ii)	Mixture of chaff and grains	( )	q	Sedimentation and decantation
(iii)	Mixture of pebbles and rice	( )	r	Threshing
(iv)	Separate grains from stalks	( )	s	Winnowing

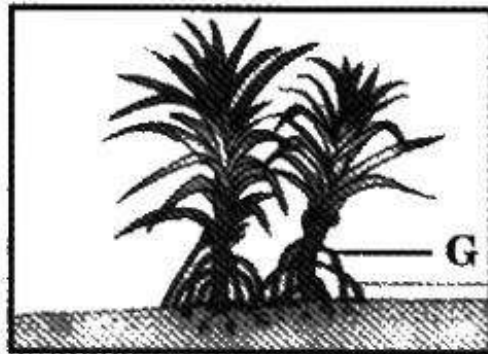
- (A) (i) – s, (ii) – q, (iii) – r, (iv) – r  
(B) (i) – p, (ii) – s, (iii) – q, (iv) – r  
(C) (i) – q, (ii) – s, (iii) – p, (iv) – r  
(D) (i) – q, (ii) – s, (iii) – r, (iv) – p

**70 In what way are the glass objects below similar?**



- (A) They are flexible.  
(B) They break easily when dropped.  
(C) They float in water.  
(D) They are all opaque.

**71** The figure given below shows a plant.



What is the function of the part labelled 'G' in the given plant ?

- (A) To absorb moisture.      (B) To absorb sunlight.  
(C) To breathe.      (D) To provide support.

**72** Which of the following edible roots is/are rich in sugar, protein and carotene?

- I. Carrot  
II. Beetroot  
III. Radish

- (A) I only      (B) II only      (C) III only      (D) I, II and III

**73** Shreya placed two drops of a liquid on cooked rice. The rice turned to blue-black in colour. What could be the liquid?

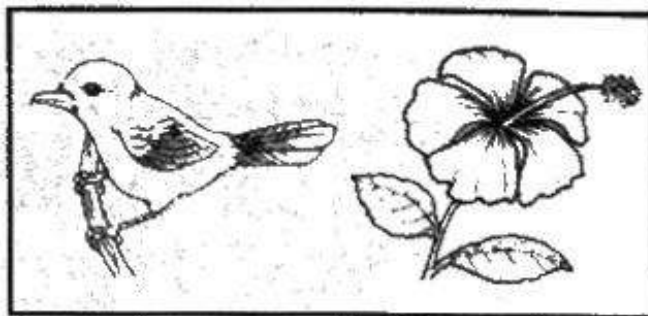
- (A) Benedict's solution      (B) Iodine solution  
(C) Nitric acid      (D) Copper sulphate solution

**74** Which of the following sets of animals have streamlined body, that helps in easy movement of the animal ?

- (A) Snake and crocodile      (B) Cockroach and snail  
(C) Fish and bird      (D) Snake and snail.

75

Figures given below shows a bird and a plant.

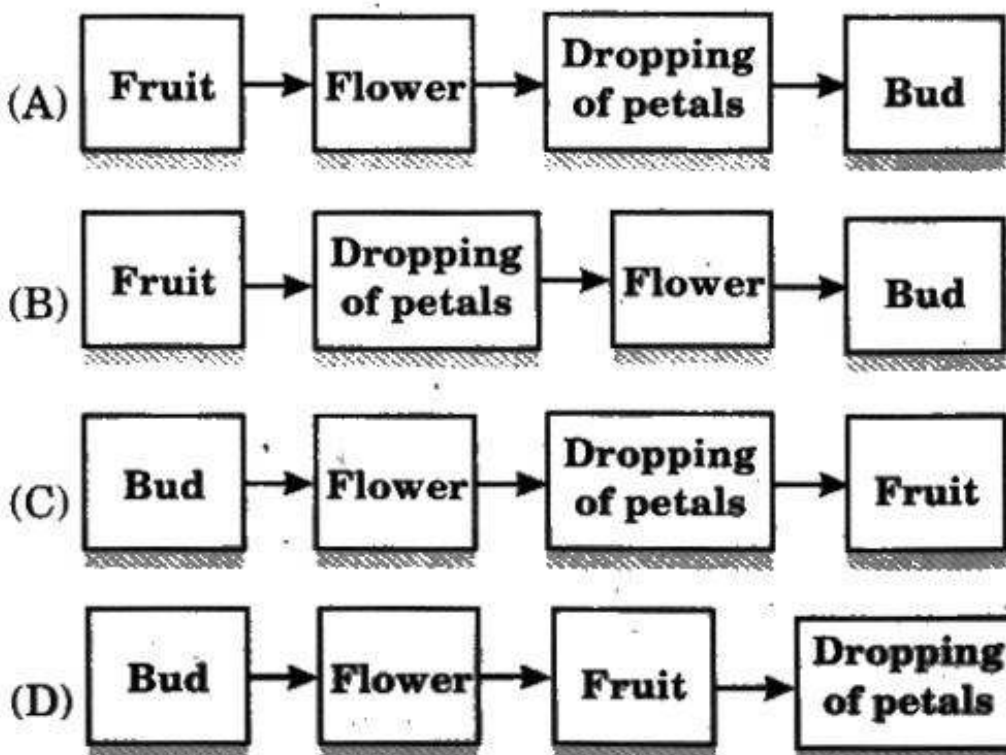


Which of the following classifications is correct about the given organisms?

Bird	Plant
(A) Needs space	Does not need space
(B) Needs oxygen	Does not need oxygen
(C) Does not need water	Need water
(D) Does not need sunlight to make food	Needs sunlight to make food.

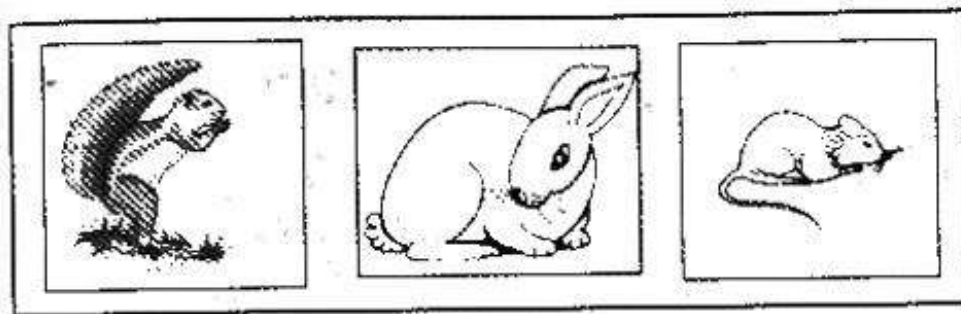
76

Which of the following sequences represents the correct order in the formation of a fruit?



77

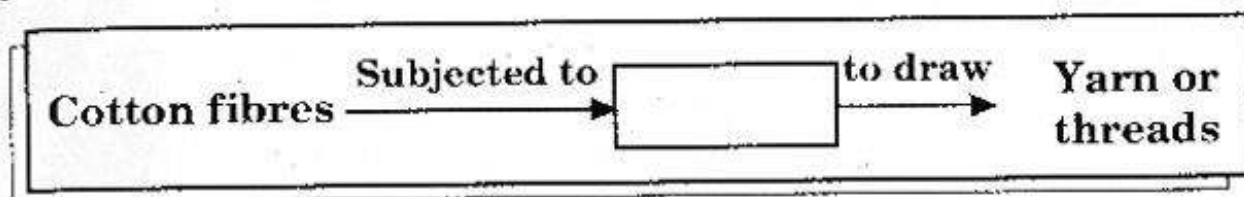
Animals given below are similar because:



- (A) They are herbivores. (B) They live in burrows.  
(C) They gnaw their food. (D) They are omnivores.

78

The figure given below shows the formation of yarn.



Which of the following completes the given figure?

- (A) Ginning (B) Weaving (C) Knitting (D) Spinning

79

Which of the following are the locomotory organs in an earthworm?

- (A) Cilia and muscles. (B) Flagella and moist skin.  
(C) Setae and its body segments. (D) Parapodia and clitellum.

80

The figure given below shows a plant that folds its leaves and droops down.



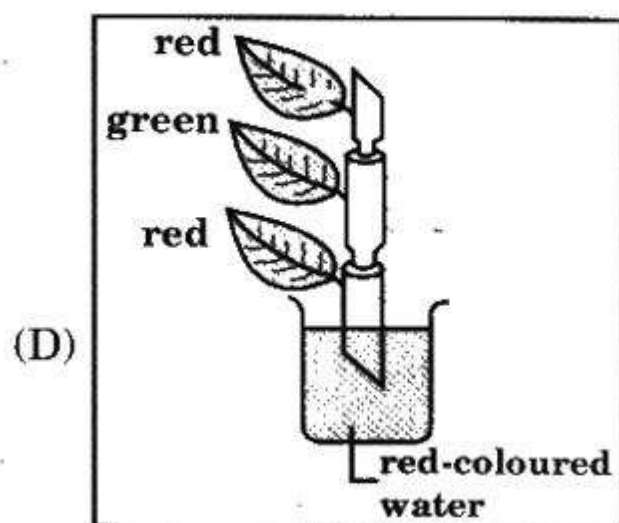
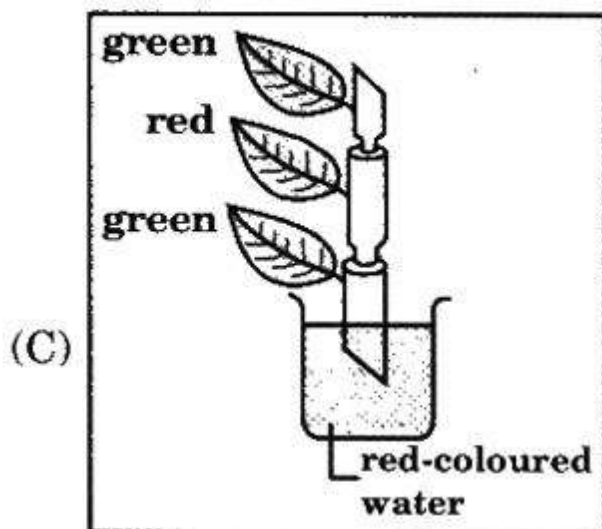
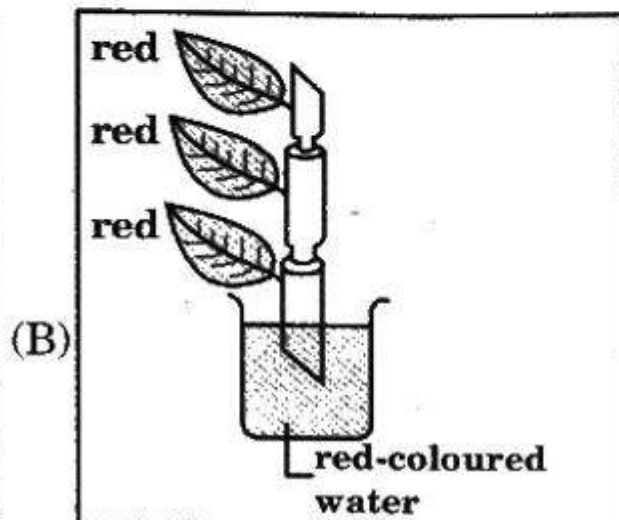
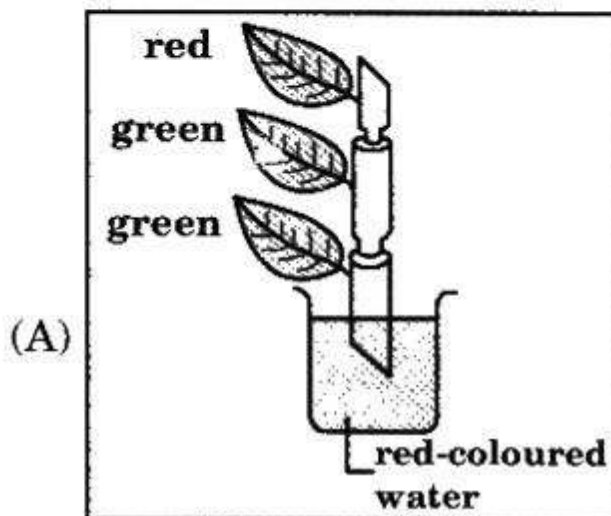
Which of the following stimulus causes the above plant to droop its leaves ?

- (A) Sunlight (B) Water  
(C) Touch (D) Gravity



81

A stem was left in a beaker containing red coloured water. Which of the following options shows the correct inference about the colour of the leaves?



82

Observe the figure given below and identify the type of joint.



- (A) Pivot joint  
(C) Saddle joint

- (B) Gliding joint  
(D) Hinge joint

**83** Which of the following minerals is useful in maintaining healthy bones and teeth?

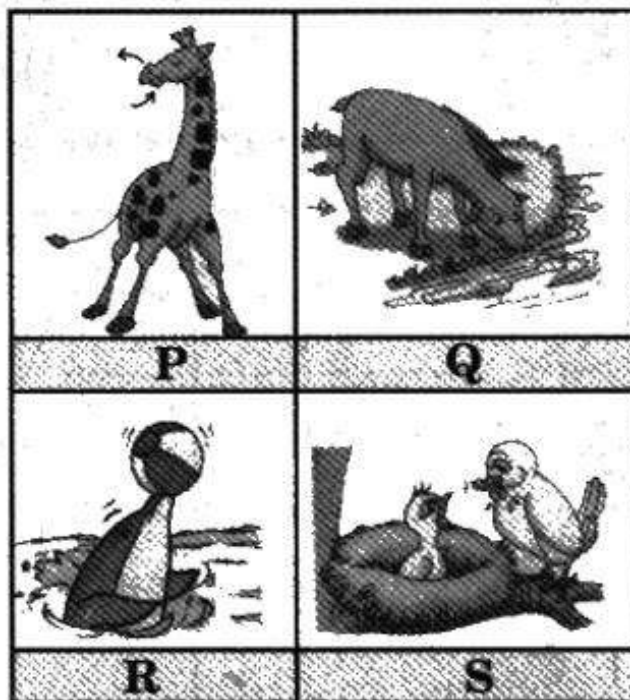
(A) Sodium

(B) Calcium

(C) Iron

(D) Potassium

**84** The figures given below show activities carried out by animals.



Which of the following labelled activities does not show a basic need of animals?

(A) P

(B) Q

(C) R

(D) S

**85** Which of the following classification is correct?

Storage Roots	Storage Leaves
(A) Ginger	Onion
(B) Sweet Potato	Onion
(C) Potato	Cactus
(D) Radish	Ginger

- 86** Food items given below belongs to which of the following food components?

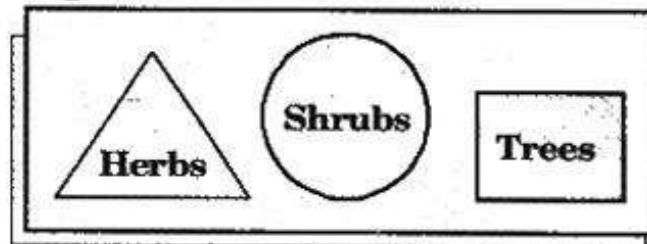
beans, peas, pulses, fish

- (A) Fats (B) Proteins (C) Vitamins (D) Carbohydrates

- 87** Which of the following fibres is obtained from the stem of a plant?

- (A) Cotton (B) Hemp (C) Coir (D) Silkcotton

- 88** Abhi is grouping plants. He decided to draw a circle or a square or a triangle around the plants depending on their size and life span.



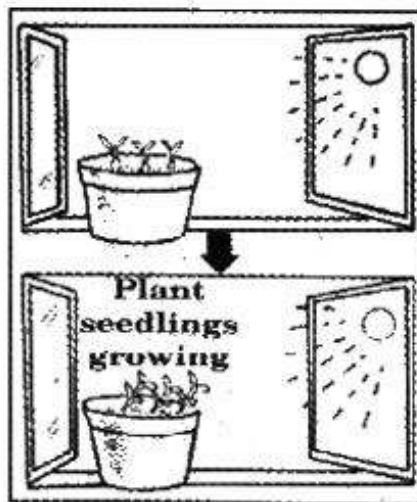
Around which of these plants should he draw a circle?

- (A) Papaya (B) Mango (C) Rose (D) Mint

- 89** Which of the following has fixed bones?

- (A) Skull (B) Neck (C) Legs (D) Backbone

- 90** Observe the figure given below.



The seedlings are responding to which of the following stimulus?

- (A) Touch (B) Sunlight (C) Water (D) Gravity

- 91 Which of these instruments records earthquakes?**  
(A) Barometer (B) Hydrometer  
(C) Seismograph (D) Hygrometer
- 92 What type of mountains are the Aravalli ranges?**  
(A) Residual mountains (B) Volcanic mountains  
(C) Block mountains (D) Folded mountains
- 93 What is the expansion of UGC?**  
(A) University Grants Concession  
(B) Universal Grants Commission  
(C) Union Government Concession  
(D) University Grants Commission
- 94 What is the full form of DD ?**  
(A) Dare Devil (B) Demand Draft  
(C) Devil's Day (D) Dry Day
- 95 Which specific disability does the film 'Taare Zameen Par' highlight?**  
(A) Dyslexia (B) Anaemia  
(C) Amnesia (D) Down's syndrome
- 96 Which team did M. S. Dhoni lead in the IPL ?**  
(A) Rajasthan Royals (B) Chennai Super Kings  
(C) Mumbai Indians (D) Deccan Chargers
- 97 Who invented Penicillin?**  
(A) Gregory Mendel (B) Alexander Fleming  
(C) Edward Jenner (D) William Harvey
- 98 What is the colour of the cartoon octopus Oswald ?**  
(A) Blue (B) Green (C) Red (D) Purple
- 99 Who played the role of Rancho in the film "3 Idiots"?**  
(A) Aamir Khan (B) Salman Khan  
(C) Madhavan (D) Omi Prakash
- 100 Who is the author of 'Swami and friends'?**  
(A) Rabindranath Tagore (B) R. K. Narayan  
(C) Mulk Raj Anand (D) R. K. Lakshman

●●● ————— **Key for NSTSE-2012** ————— ●●●

1. C	2. D	3. C	4. D	5. B	6. D	7. A	8. A	9. B	10. B
11. B	12. C	13. A	14. D	15. C	16. D	17. C	18. C	19. B	20. B
21. C	22. C	23. D	24. A	25. A	26. B	27. C	28. A	29. B	30. C
31. C	32. C	33. B	34. C	35. B	36. A	37. A	38. C	39. C	40. A
41. D	42. A	43. C	44. C	45. C	46. B	47. B	48. A	49. C	50. B
51. A	52. A	53. C	54. A	55. B	56. C	57. D	58. B	59. B	60. D
61. A	62. C	63. B	64. B	65. B	66. C	67. C	68. D	69. C	70. B
71. D	72. A	73. B	74. C	75. D	76. C	77. C	78. D	79. C	80. C
81. B	82. C	83. B	84. C	85. B	86. B	87. B	88. C	89. A	90. B
91. C	92. D	93. D	94. B	95. A	96. B	97. B	98. A	99. A	100. B