

# National Level Science Talent Search Examination - 2012

**Class : IV**

**Mathematics**

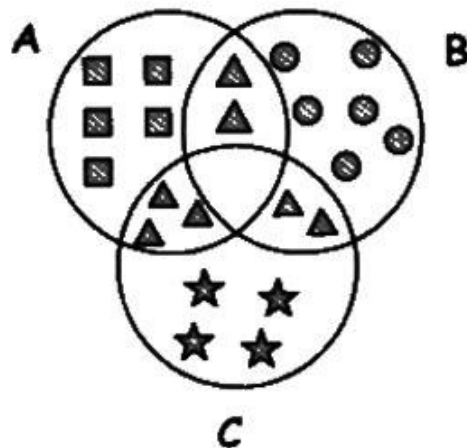
**1** Which is the same as 35 tens?

- (A) 3 tens and 50 ones      (B) 30 tens and 5 ones  
(C) 3 hundreds and 5 ones      (D) 3 hundreds and 50 ones.

**2** Find the Roman numeral equal to '29'.

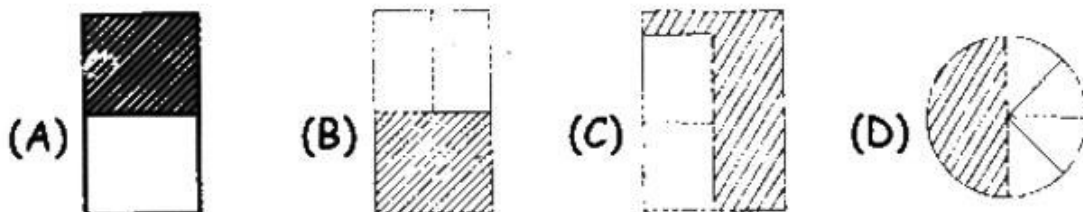
- (A) XXXI      (B) XXIV      (C) XXIX      (D) VXIX

**3** How many figures are there in the circle B?



- (A) 6      (B) 8      (C) 10      (D) 22

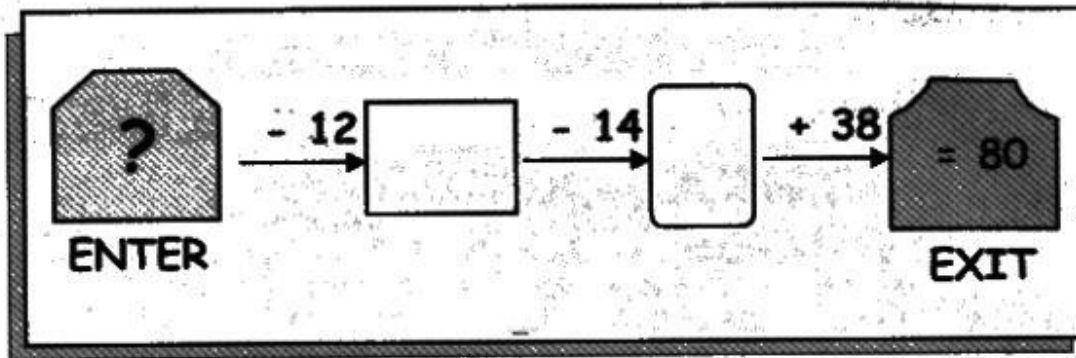
**4** Find the odd one out.



**5** "700 was added 35 times". The total is:

- (A) 35700      (B) 35000      (C) 25400      (D) 24500

- 6 Nikhil puts a number into the "ENTER" box of the sentence.



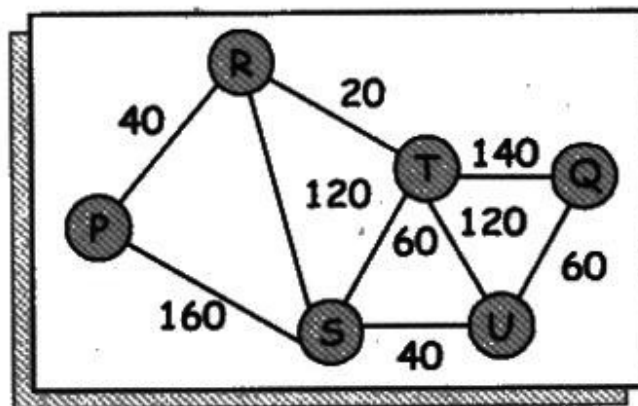
The "EXIT" number was 80. What number did Nikhil put into the "ENTER" box?

- (A) 68      (B) 72      (C) 76      (D) 92

- 7 Which number has the greatest place value of '7'?

- (A) 56720      (B) 27435      (C) 99997      (D) 86274

- 8 The picture below shows bus routes and ticket prices between 6 places. What is the least amount of money Ankita has to pay for the tickets to go from place P to place Q?



- (A) 160      (B) 200      (C) 240      (D) 220

- 9 Satya can read 120 pages in 6 hours. How many pages does he read in half an hour?

- (A) 5      (B) 10      (C) 20      (D) 30

10 Which of the following is a leap year?

- (A) 2003      (B) 2005      (C) 2008      (D) 2010

11 Which of the following figures contains exactly three circles?



12 How many basic numerals are there in Roman numeration system?

- (A) 7      (B) 8      (C) 9      (D) 10

13 What is the least common multiple of 3, 6 and 10?

- (A) 120      (B) 60      (C) 30      (D) 1

14 Each expression shown below has the same value.

|              |
|--------------|
| $8 \times 3$ |
| $6 \times 4$ |
| $48 \div 2$  |

Which of the following has the same value as each of the three expressions above?

- (A)  $72 \div 6$       (B)  $72 \div 3$       (C)  $144 \div 3$       (D)  $144 \div 9$

15 Which of these simple closed figures is also a polygon?



**16** 152 chocolates were equally distributed amongst 16 children in such a way that each child gets 9 chocolates. How many chocolates were left over?

- (A) 8            (B) 12            (C) 14            (D) 144

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

(A)  $\frac{7}{8}$  and  $\frac{8}{9}$  are like fractions.

(B)  $\frac{3}{4}$  and  $\frac{7}{4}$  are unlike fractions.

(C)  $\frac{1}{2}$  and  $\frac{2}{4}$  are equivalent fractions.

(D)  $\frac{4}{3}$  and  $\frac{6}{5}$  are the examples of proper fractions.

**18** By how much would the value of 8540 change if the digit "8" is replaced with the digit "3"?

- (A) 3            (B) 5            (C) 5000            (D) 8000

**19** The numbers below follow a pattern. Which number comes next in the given pattern?

60 , 51, 42, 33, 24, ?

- (A) 14            (B) 15            (C) 16            (D) 18

**20** Which number in place of question mark below, makes the number sentence correct?

$18 + 16 < ? + 10$

- (A) 20            (B) 21            (C) 24            (D) 26

21 How much is  $(145 \times 140) - (144 \times 140)$ ?

- (A) 145      (B) 144      (C) 140      (D) 120

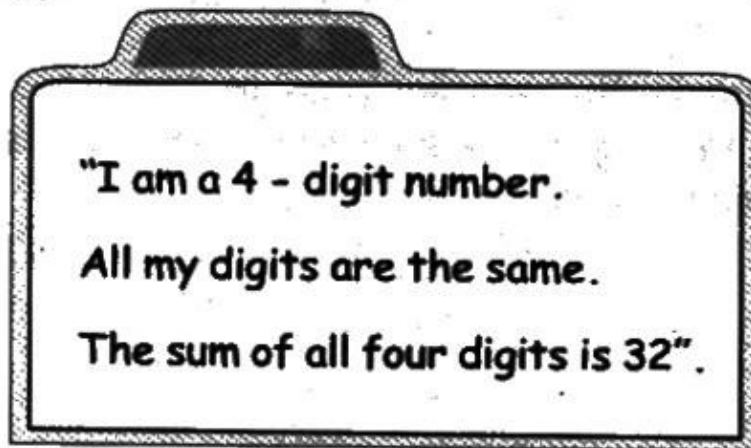
22 Which number is the smallest factor of every number?

- (A) 0      (B) 1  
(C) 2      (D) The number itself

23 Which is a better unit to measure the length of a ₹ 500 note?

- (A) mm      (B) cm      (C) m      (D) km

24 Who am I?



- (A) 7777      (B) 9879      (C) 8888      (D) 9999

25 Vihang divided a certain number by 10 instead of multiplying it by 10 and got 500 as a result. What would the result have been if he had not made that mistake?

- (A) 50000      (B) 5000      (C) 500      (D) 50

26 How many thousands make a lakh?

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

27 How many days were there in the month of July 2011?

- (A) 28      (B) 29      (C) 30      (D) 31

28 The least common multiple of 100 and 1000 is:

- (A) 10      (B) 100      (C) 1000      (D) 10000

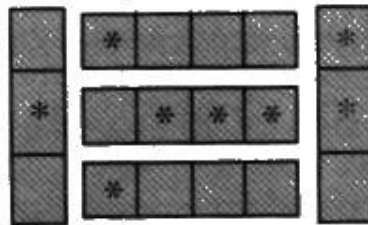
29 The diagram shows a new bottle of liquid detergent.



Deepa uses 0.2 l of the detergent. Find the volume, in ml, of detergent left in the bottle.

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

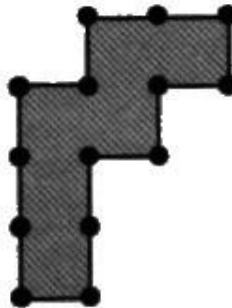
30 Given below is the seating arrangement for students in a classroom with each box showing one chair. The chairs which have a star mark are occupied.



Which of these is true?

- (A) More chairs are occupied than empty chairs.  
(B) Nine chairs are unoccupied.  
(C) Every student has a partner sitting next to him or her.  
(D) The number of occupied chairs is less than 10.

31 How many metres of wire fencing is needed if each post is 6 m apart?



- (A) 66      (B) 72      (C) 78      (D) 84

**32** What is the smallest 6 - digit number that can be formed using the digits 2, 0, 4, 5, 7, 1 ?

(A) 021457

(B) 102457

(C) 210457

(D) 120547

**33** The number of minutes in one complete day is:

(A) 3600

(B) 1200

(C) 2400

(D) 1440

**34** The sum of two like fractions is  $\frac{8}{9}$  and their difference is

$\frac{2}{9}$ . What are the two fractions?

(A)  $\frac{6}{9}, \frac{2}{9}$

(B)  $\frac{5}{9}, \frac{3}{9}$

(C)  $\frac{4}{9}, \frac{4}{9}$

(D)  $\frac{8}{9}, \frac{2}{9}$

**35** Observe the following sums.

$$1 =$$

$$1 \times 1 = 1$$

$$1 + 3 =$$

$$2 \times 2 = 4$$

$$1 + 3 + 5 =$$

$$3 \times 3 = 9$$

$$1 + 3 + 5 + 7 =$$

$$4 \times 4 = 16$$

$$1 + 3 + 5 + 7 + 9 + \dots + 19 = ?$$

(A) 121

(B) 100

(C) 81

(D) 64

**36** What is the quotient when the greatest 4 - digit number is divided by the smallest 3 - digit number?

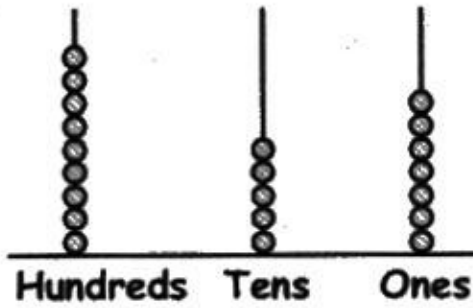
(A) 1

(B) 9

(C) 99

(D) 999

- 37 How many beads should be removed from the hundreds place in the abacus shown here if it has to represent a number between 500 and 560?

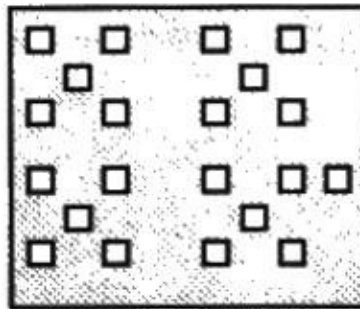


- (A) 2                      (B) 3                      (C) 4                      (D) 5

- 38 Write the expanded form of 52010.

- (A)  $50000 + 2000 + 0 + 10 + 0$     (B)  $52000 + 100 + 10 + 0$   
 (C)  $50000 + 2000 + 100 + 0 + 0$     (D)  $5000 + 20000 + 0 + 10 + 0$

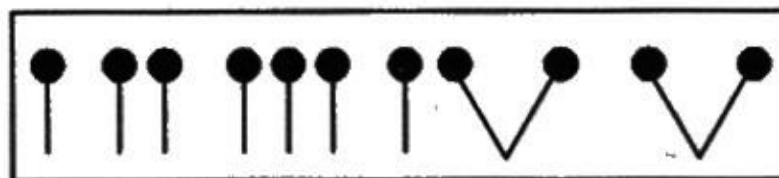
- 39 Ajit arranged some marbles in the manner shown below.



Which of the following division facts is best represented by this grouping of marbles? (All the marbles must be considered)

- (A)  $21 \div 5$  gives quotient 4 and remainder 1  
 (B)  $21 \div 7$  gives quotient 3  
 (C)  $20 \div 5$  gives quotient 4  
 (D)  $5 \div 4$  gives quotient 1 and remainder 1

- 40 A teacher was arranging the Roman numerals with match sticks as shown below.



Name the number between I and X which requires the maximum number of match sticks?

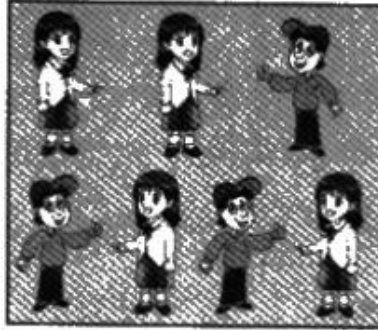
- (A) 6                      (B) 7                      (C) 8                      (D) 9



41 Write the smallest prime number greater than 50.

- (A) 53 (B) 50 (C) 47 (D) 57

42 What fraction of the children in the following group are girls?



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

43 Pravalika is celebrating Diwali with her friends. She knew that fire crackers can be burst only till 10 p.m. The night time is shown by the clock below.



For how much more time can Pravalika and her friends enjoy bursting crackers?

- (A) 20 minutes (B) 40 minutes (C) 45 minutes (D) 56 minutes

44 In how many ways can ₹ 6 be obtained from the following coins?



- (A) 3 (B) 4 (C) 5 (D) 6

45 Which fraction below can be represented as  $7\frac{2}{3}$ ?

- (A)  $\frac{72}{3}$  (B)  $\frac{23}{2}$  (C)  $\frac{23}{3}$  (D) 3

46 Which of the following plants responds to touch ?

- (A) Mango (B) Mangrove (C) Mimosa (D) Marigold

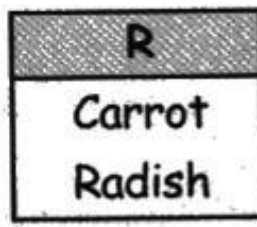
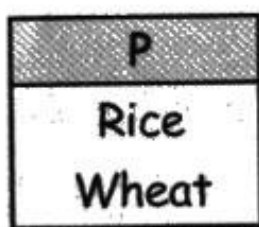
47 Which of the following sequences represents the passage of oxygen in the respiratory system ?

- (A) Nose → Lungs → Windpipe → Blood  
(B) Nose → Windpipe → Lungs → Blood  
(C) Nose → Blood → Lungs → Windpipe  
(D) Nose → Blood → Windpipe → Lungs

48 Which of the following food substances is a rich source of carbohydrates ?

- (A) Wheat (B) Pea (C) Pulses (D) Meat

49 In which of the following boxes we can place tomato ?

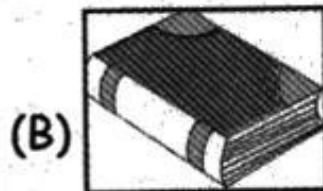


- (A) P (B) Q (C) R (D) S

50 Which of the following can increase in volume due to air ?



Kettle



Book

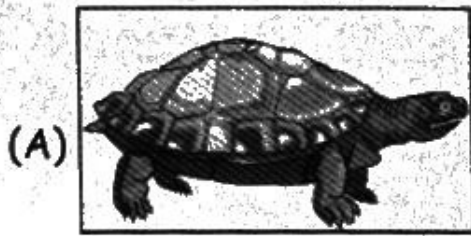


Top



Balloon

51 Which of the following is an egg laying animal ?



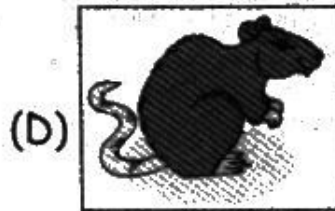
Tortoise



Rabbit



Bat



Rat

52 Which of the following conversions is correct ?

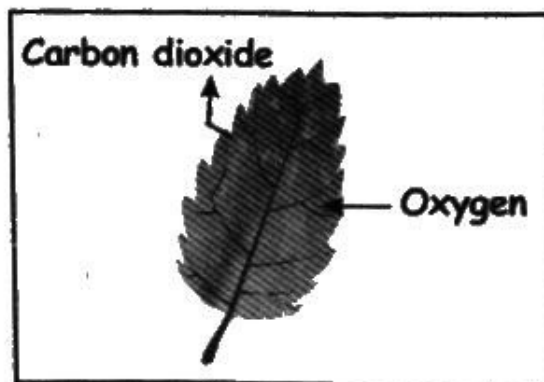
(A) Water  $\xrightarrow{\text{heat}}$  Steam  $\xrightarrow{\text{heat}}$  Ice

(B) Steam  $\xrightarrow{\text{cool}}$  Water  $\xrightarrow{\text{cool}}$  Ice

(C) Water  $\xrightarrow{\text{cool}}$  Ice  $\xrightarrow{\text{cool}}$  Steam

(D) Steam  $\xrightarrow{\text{heat}}$  Ice  $\xrightarrow{\text{cool}}$  Water

53 Observe the figure given below.



The given figure represents which of the following processes ?

(A) Respiration

(B) Photosynthesis

(C) Transportation

(D) Nutrition

**54** Which of the following statements is true about the water droplets that can be seen on grass in winter mornings?

- (A) The secretion of water from the leaves.
- (B) Due to the absorption of rain droplets on leaves that take place every night.
- (C) Condensation of water particles in the air.
- (D) Excessive absorption of water from the soil.

**55** Which of the following soil particles is most helpful for the plant growth ?

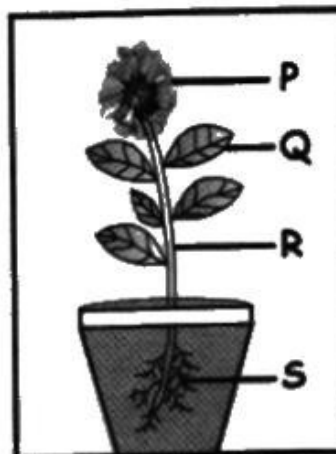
- (A) Humus      (B) Rocks      (C) Sand      (D) Clay

**56** Match the following animals in Column-I with their adaptations in Column-II.

|   | Column-I |     | Column-II             |
|---|----------|-----|-----------------------|
| a | Crane    | i   | Grow thick fur        |
| b | Bear     | ii  | Migrate to warm areas |
| c | Frog     | iii | Hibernation           |

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

**57** Which of the following is the main function of the part labelled 'R' in the figure given below ?



- (A) Provide support      (B) Synthesise food  
(C) Produce seeds      (D) Absorb water

**58** The legs of a frog are webbed. This helps the frog to



- (A) catch flies easily.                      (B) fly to greater heights.  
(C) stick to walls.                            (D) swim in water.

**59** How does light coloured clothes keep our bodies cool in summer?

- (A) By absorbing heat present in the air.  
(B) By preventing body heat to escape.  
(C) By reflecting sunlight.  
(D) By the absorption of sunlight.

**60** Washed clothes that are hanged out dry fastest on which of the following days ?

- (A) Humid day                                      (B) Cloudy day  
(C) Windy and cloudy day                      (D) Sunny and windy day

**61** Which of these substances has definite volume but no fixed shape ?

- (A) Milk    (B) Carbon dioxide  
(C) Water vapour                                      (D) Book

**62** Which of these is a non-living thing ?

- (A) Seed                      (B) Fish                      (C) Dried leaves                      (D) Lotus plant

**63** Which of the following is called "The kitchen of a plant" ?

- (A) Root                      (B) Stem                      (C) Leaf                      (D) Fruit

**64** Which of the following forces stops a football rolling itself on the ground ?

- (A) Gravitational force                              (B) Mechanical force  
(C) Muscular force                                      (D) Frictional force

- 65** Which of the following animals should come in the empty box given below ?

| Herbivore | Carnivore | Omnivore |
|-----------|-----------|----------|
| Cow       | Tiger     | ?        |

- (A) Lizard (B) Snake  
(C) Monkey (D) Bear
- 66** In which of the following processes does water change into water vapour ?  
(A) Condensation (B) Sedimentation  
(C) Evaporation (D) Melting
- 67** Which of the following components of food helps in body building ?  
(A) Carbohydrates (B) Proteins  
(C) Iron (D) Butter
- 68** Which of the following parts of human alimentary canal stores food for 3-4 hours ?  
(A) Mouth (B) Food pipe  
(C) Stomach (D) Small intestine
- 69** Which of the following types of energy is used to drive scooters, cars and trucks ?  
(A) Electrical energy (B) Wind energy  
(C) Chemical energy (D) Light energy
- 70** Which of the following causes seasons?  
(A) Rotation of the Moon (B) Revolution of the Earth  
(C) Rotation of the Earth (D) Revolution of the Sun
- 71** Which of the following kinds of teeth is useful in tearing food ?  
(A) Incisors (B) Canines  
(C) Premolars (D) Molars

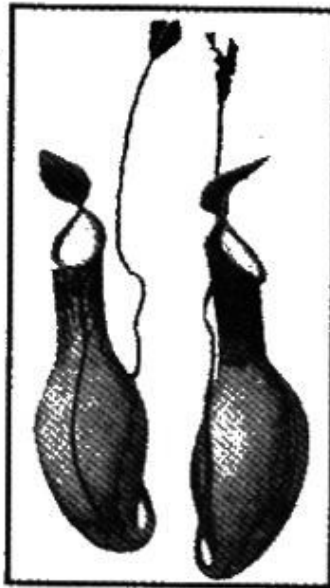
**72** Banyan tree develops prop roots. This is an adaptation to get:

- (A) moisture (B) air  
(C) sunlight (D) support

**73** Which of the following organs is NOT a part of digestive of system ?

- (A) Liver (B) Pancreas  
(C) Oesophagus (D) Kidneys

**74** The figure given below is a part of pitcher plant. It closes its lid when insects sit on it. This shows that the plant is a



- (A) herbivorous plant (B) insectivorous plant  
(C) saprophytic plant (D) Both (A) and (B)

**75** How does teeth help in digestion ?

- (A) They produce digestive juices.  
(B) They control the functioning of digestive organs.  
(C) They digest the food.  
(D) They tear, cut, crush or grind food into small pieces.

**76** Which of the following types of soils is good for vegetables ?

- (A) Loam (B) Sandy (C) Clay (D) Gravel

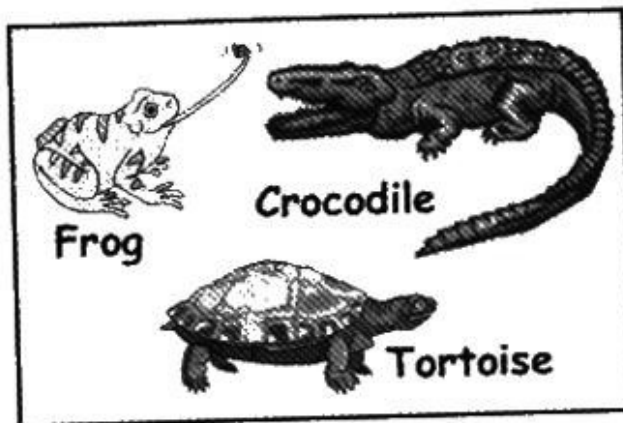
**77** What causes a tooth to become decayed ?

- (A) Eating too many protein foods.
- (B) Brushing teeth regularly.
- (C) Bacteria in the mouth.
- (D) Eating only fruits and vegetables.

**78** Which of the following organisms and their body covering are wrongly matched ?

- (A) Rabbit - Hair
- (B) Tortoise - Slimy skin
- (C) Polar bear - Fur
- (D) Frog - Moist skin

**79** How are the animals given below similar ?



- (A) They give birth to live youngones.
- (B) They are omnivores.
- (C) They can live both on land and in water.
- (D) They are herbivores.

**80** Which of the following components of air is essential for all living organisms ?

- (A) Oxygen
- (B) Water vapour
- (C) Carbon dioxide
- (D) Nitrogen

**81** Which of the following animals does not pass through the four stages of life cycle ?

- (A) House-fly
- (B) Mosquito
- (C) Butterfly
- (D) Grasshopper



**82** Which of the following cannot make food ?

- (A) Croton plant (B) Money plant (C) Cactus (D) Mould

**83** Which of the following plants have stomata on their upper surface?

- (A) Opuntia (B) Lotus (C) Hydrilla (D) Tapegrass

**84** Which of the following animals undergo hibernation ?

- (A) Camels (B) Whales (C) Lizards (D) Dolphins

**85** Which of the following aerial animals is not a bird ?

- (A) Parrot (B) Koel (C) Hawk (D) Bat

**86** Which of the following terms also mean flesh eating animals?

- (A) Carnivores (B) Herbivores (C) Omnivores (D) Decomposers

**87** Which part of sugarcane contains food ?

- (A) Root (B) Stem (C) Leaf (D) Fruit

**88** Which of the following colours is formed when iodine solution is added to the starch solution ?

- (A) Blueblack (B) Red (C) Yellow (D) Green

**89** Match the following animals in Column-I with their youngones in Column-II.

|   | Column-I  |     | Column-II   |
|---|-----------|-----|-------------|
| a | Frog      | i   | Maggot      |
| b | Cockroach | ii  | Caterpillar |
| c | Butterfly | iii | Tadpole     |
| d | Housefly  | iv  | Nymph       |

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

**90** In which of the following processes do animals shed their old skin?

- (A) Resting phase (B) Moulting  
(C) Growth (D) Reproduction

**91** Which cartoon character gains strength by eating spinach?

- (A) Chota Bheem (B) Pink Panther  
(C) Popeye (D) Tom

**92** Which option is used to undo the work in a MS-Word document?

- (A) Ctrl + Z (B) Ctrl + U (C) Ctrl + V (D) Ctrl + B

**93** Which country is in the south of India ?

- (A) Pakistan (B) Sri Lanka (C) Nepal (D) Bangladesh

**94** How many sons did king Dasharatha have ?

- (A) 3 (B) 2 (C) 6 (D) 4

**95** Which of these is a star?

- (A) The Moon (B) The Sun (C) The Earth (D) Mars

**96** Who got the Taj Mahal constructed?

- (A) Shahjahan (B) Akbar  
(C) Sri Krishna Devaraya (D) Birbal

**97** How many spokes are there in the wheel of our National Flag?

- (A) 15 (B) 12 (C) 24 (D) 20

**98** Who wrote the book, "The panchatantra"?

- (A) Kalidasa (B) Pandit Vishnu Sharma  
(C) Kautilya (D) Rabindranath Tagore

**99** What is used for safety while driving a car ?

- (A) Hand seat (B) Seat belt  
(C) Push back seats (D) Slow driving

**100** Where did the classical dance form Kuchipudi originate?

- (A) Odisha (B) Karnataka  
(C) Kerala (D) Andhra Pradesh

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

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