

Junior Scientist Program (Std VI)  
Dr Homi Bhabha Bal Vaidyanik Examination  
Full Test 2



Building Foundations  
Maths-Science-Reasoning

Olympiads NTSE IJSO NMTC



exclusive

Full Test 2

Max Marks : 100

Time :1.30 Hrs

1) In solar cell, thin sheets of which material are used?

- 1) Krypton 2) Xenon 3) Silicon 4) Aluminium

2) Find the odd word out.

- 1) Coal 2) Wood 3) Glass 4) *Karanja*

3) Which of the following forces is acting on a ball when it is hit by the bat and is in the sky ?

- 1) Magnetic force 2) Muscular force  
2) Gravitational force 4) Frictional force

4) Energy crises is a big challenge. Why?

- 1) Conventional sources are exhausting  
2) Excess use of energy in modern progressive age  
3) Developing new sources of energy is expensive  
4) All of the above

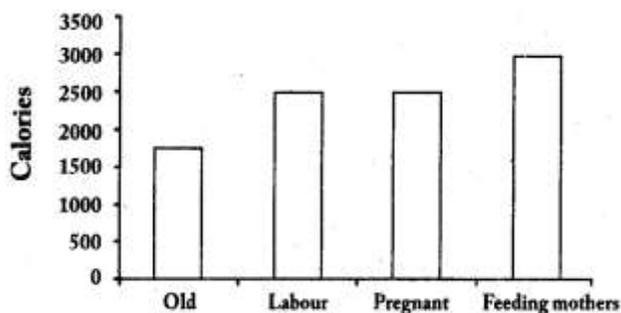
5) If A, B, C are densities of ice, river water and sea water respectively. What will be the relation between A, B, C?

- 1)  $A < B < C$  2)  $B < A < C$   
3)  $C < B < A$  4)  $C < A < B$

6) \_\_\_\_\_ is a famous sanctuary in Dhule district.

- 1) Melghat 2) Navegaon  
3) Radhanagari . 4) Tadoba

7) Using given bar diagram, state which category of women require more energy?



- 1) Old 2) Labour  
3) Pregnant 4) Feeding mothers

8) Which organ is affected by jaundice?

- 1) Stomach 2) Lungs 3) Liver 4) Kidney

9) Complete the analogy.

Tendrils of the grapevine : stem ::

thorns of prickly pear (cactus) : .....

- 1) Stems 2) Leaves 3) Roots 4) Flowers

10) Some pairs of changes are given. Find the odd pair.

- 1) To cut vegetable, to cook vegetable  
2) To knead a dough, to bake the *roti*  
3) To make furniture from wood, to make paper from wood  
4) To tear off a paper, to make boat from a paper

11. Modern method of irrigation for growing sugarcane is \_\_\_\_\_.

- 1) drip irrigation 2) sprinkle irrigation  
3) by closed pipe 4) by open channels

12. One litre water of temperature 30 °C is mixed with one litre water of temperature. 50°C. What, will be the temperature of the mixture ?

- 1) 20 °C 2) 30 °C 3) 40 °C 4) 50 °C

Q. 13. What is the cause of seabreeze?

- 1) Land gets heated faster than water  
2) Water gets heated faster then land  
3) Land gets cooled faster then water  
34) Water gets cooled faster then land

Q. 14. Find the chemical change from the following.

- 1) Drying of clothes 2) Cleaning the clothes with soap  
3) Ironing of clothes 4) Stitching of clothes

Q. 15. When chlorination of water is done \_\_\_\_\_.

- 1) bacteria in water get killed  
2) insoluble impurities get separated  
3) soluble impurities get separated  
4) insoluble substances settle down in water

My Target Score 70+ Marks

**Q. 16. A cup is completely filled with water. Stone is immersed in it. Water spills out. In this experiment, which common property of water and stone is observed ?**

- 1) Substance occupies space
- 2) Substance has specific shape
- 3) Substance does not have specific shape
- 4) Substance has mass

**Q. 17, State proper choice about the following statements, a. Earth revolves around the Sun b. Earth rotates around its own axis c. Day, and night takes place on the Earth**

- 1) a and c are true and b is false
- 2) b and c are true and a is false
- 3) a, b and c are true and b is reason of c
- 4) a, b and c are true and a is reason of c

**Q. 18. Which gas is dissolved in aerated drinks ?**

- 1) Oxygen(2) Nitrogen 3) Carbon dioxide (4) Hydrogen

**Q. 19. What will happen if bottle of jam remains open in moist air?**

- 1) Jam will become bitter 2) Jam will become sour
- 3) Fungus will grow on it 4) Worms will grow in jam

**Q. 20. To avoid chemical reaction what is used for coating of copper and brass utensils?**

- 1) Aluminium 2) Gold 3) Tin, 4) Zinc

**Q. 21. Which layer of atmosphere is important for transmission of radio waves?**

- 1) Exosphere (2) Stratosphere
- (3) Troposphere (4) Ionosphere

**Q. 22. When can you see the fog? -**

- 1) During dawn in summer 2) During dusk in summer
- 3) During dawn in winter 4) During dusk in winter

**Q. 23. Why vitamin B and C are lost if we wash a vegetable after cutting it?**

- 1) They are insoluble in water
- 2) They are soluble in water
- 3) They are present in very small quantity
- 4) They get decomposed by heat

**Q. 24. Human being can hold a pen in hand and write with it. Because \_\_\_\_\_**

- 1) his thumb is at lower level than other fingers,
- 2) he has five fingers

3) his all fingers are not of same length

4) his thumb is opposable

**Q. 25. In test tubes A, B, C, D soaked pulses are kept in water, on wet cotton, on dry cotton and in oil respectively. Pulses from which test tube will germinate?**

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

**Q. 26. The credit for classifying plants goes to the scientist**

- 1) Robert Hook 2) Carolus Linnaeus
- 3) Maharashi Kanad 4) Camilo Golgi

**Q. 27. Complete the analogy.**

**Diamond : Cutting glass : : Coal :**

- 1) Mineral 2) Carbon
- 3) Water purification 4) Making of lead of a pencil

**Q. 28. Find out the true statement**

- 1) Digestion starts in stomach 2) Digestion starts in mouth
- 3) The food which is not digested is excreted through small intestine
- 4) For digestion of food, enzymes are secreted at a single place

**Q. 29. Vaccination of \_\_\_\_\_ is essential for the pilgrims of Ashadhi Ekadashi.**

- 1) Malaria 2) Cholera 3) Polio 4) T. B.

**Q. 30. Nut cracker is lever of which type?**

- 1) First type 2) Second type 3) Third type 4) None

**Q. 31. At which place, nuclear power station is going to be installed in Maharashtra to overcome electric power crises?**

- 1) Kudankulam 2) Koyana 3) Jaitapur 4) Dabhol

**Q. 32. O.R.S means**

- 1) Overall recovering solution
- 2) Overall rehydration solution
- 3) Oral rehydration solution 4) Oral recovering solution

**Q.33For manufacturing fertilisers which of the following substances is used?**

- 1) Common salt 2) Super phosphate
- 3) Ferrus sulphate 4) Washing soda

**Q34 What would have happened if there was no atmosphere around Earth?**

- 1) Average temperature of Earth would have been increased 2) We would not have heard any voice

My Target Score 70+ Marks

- 3) We might have to jump instead of walking  
 4) Our weight would have been reduced

**Q35** A car is moving at a speed of 40 km/hr for 15 min. Next 15 min. it is moving at a speed of 60 km/hr.

How much distance it will move in these 30 min.

- 1) 100 km 2) 25 km 3) 15 km 4) 10 km

**Q. 36.** Find the odd word out (Consider its ability to decompose)

- 1) Bones 2) Woolen cloths 3) Battery 4) Dry leaves

**Q. 37.** Temperature of saturated solution of sugar is 10 °C. Which of the following statements is true?

- 1) If temperature is reduced, sugar crystals will form in solution  
 2) If temperature is reduced, solution will become unsaturated  
 3) If temperature is increased, sugar crystals will form in solution  
 4) If temperature is increased or reduced, it will have no effect on saturation of solution

**Q. 38.** Which joint has motion similar to handle bar of bicycle?

- (1) Ankle 2) Shoulder 3) Elbow 4) Neck

**Q. 39.** Who am I?

I give food, clothing and manure to the man?

- 1) Cow (2) Silkworm (3) Sheep 4) Hen

**Q. 40.** In the diagram Neev is looking at a lid. Which process has taken place at the lid?



- 1) Evaporation 2) Sublimation  
 3) Condensation 4) Boiling

**Q. 41.** Which of the following things decide the method of separation of substances from mixture?

- (a) Density of mixture  
 (b) Ingredients of the mixture  
 (c) The substance we want out of the mixture  
 1) a 2) b 3) a and c 4) b and c

**Q. 42.** Loss of water from body is called as \_\_\_\_\_

- 1) Degradation 2) Denitration  
 3) Dehydration 4) Anaemia

**Q. 43.** Generally why do bones of young children get a crack in an accident ?

- 1) Their bones are flexible 2) Their bones are brittle  
 3) Their bones are small  
 4) Development of bones is not complete

**Q. 44.** Complete the analogy

Tipcat (gilli) : Wood :: Brick : \_\_\_\_\_

- 1) Stone 2) Lime 3) Sand 4) Soil

**Q. 45.** Wheels of the moving car has/have \_\_\_\_\_ motion/motions

- 1) linear 2) circular  
 3) linear and oscillatory 4) circular and linear

**Q. 46.** Which of the following organs produce bile ?

- 1) Liver 2) Stomach 3) Mouth 4) Pancreas

**Q. 47.** Pairs of substances are given, which have some common property. Find the odd pair.

- 1) Water, glass 2) Water, milk  
 3) Glass, milk 4) Wood, ice

**Q. 48.** Substances of \_\_\_\_\_ state/states are made up of minute particles.

- 1) solid 2) liquid 3) gaseous 4) all

**Q. 49.** Generally, what is the capacity of a teaspoon used in house?

- 1) 5ml 2) 0.5ml 3) 15ml 4) 3 ml

**Q. 50.** Which parts of the flower are necessary to produce a fruit?

- 1) Calyx, corolla 2) Androecium, gynoecium  
 3) Calyx, androecium 4) Corolla, gynoecium

**Q. 51.** Operations for glaucoma have become easier using \_\_\_\_\_.

- 1) X-rays 2) Gamma rays  
 3) Laser rays 4) Ultra-violet rays

**Q.52.** After the invention of \_\_\_\_\_, man wandering to fulfill his basic needs settled in one place.

- 1) fire 2) wheel 3) farming 4) steam engine

**Q. 53.** In which simple machine we have to use more force than the load?

- 1) Inclined plane 2) Pulley  
 3) Lever of second order 4) Lever of third order

**Q.54.** In which of the following, frictional force is used? 1) Fruit falls from the tree

- 2) Car stops when brakes are applied
- 3) Train accelerates when it starts
- 4) Aeroplane flies with uniform speed

**Q. 55. Which of the following gases form Ozone (O<sub>3</sub>)?**

- 1) Nitrogen 2) Oxygen 3) Hydrogen 4) Carbon dioxide

**Q. 56. Handle of a kettle is covered with plastic. Because**

- 1) tea should remain hot for long time
- 2) to avoid scalding by kettle
- 3) plastic is bad conductor of electricity
- 4) to make the kettle durable

**Q. 57. X-ray gives us information about \_\_\_\_**

- (1) bones (2) blood  
(3) muscles (4) bones and muscles

**Q. 58. For which of the following plants method of sprinkle irrigation is appropriate ?**

- 1) Lawn 2) Pepper 3) Banyan tree 4) Mango tree

**Q. 59. Locomotion of Paramecium takes place using \_\_\_\_\_**

- (1) pseudopodia (2) cilia  
(3) segments (4) jointed legs.

**Q. 60. When blast takes place, glass windows shatter. Here which of the following energy conversions takes place?**

- (1) Sound → Chemical → Kinetic  
(2) Chemical → Sound → Kinetic  
(3) Kinetic → Sound → Chemical  
(4) Chemical → Kinetic → Sound

**Q61 Complete the analogy:**

Burning of matchstick : Fast, chemical :

Germination of seed :

- (1) Fast, physical (2) Slow, physical  
(3) Slow, chemical (4) Fast, chemical

**Q62 Find the odd pair.**

- 1) Lotus-sea 2) Frog-pond  
3) Sorrow-tree 4) Camel-desert

**Q63 Very large amount of energy is obtained from very small amount**

- (1) Uranium (2) Carbon (3) Methane (4) CNG

**Q. 64. Due to sprouting \_\_\_\_\_ of the pulses increases.**

- 1) protein 2) salt 3) vitamin B 4) vitamin D

**Q. 65. Complete the analogy.**

Injection : treatment of disease :: Vaccination : \_\_\_\_\_

- 1) Prevents entry of germs in the body
- 2) Increases resistance power of the body
- 3) Stops reproduction of germs in the body
- 4) Excretes the disease causing germs out of body

**Q.66. \_\_\_\_\_ paper when absorbs oil, it becomes**

- 1) Transparent, opaque (2) Semi-transparent, opaque  
3) Opaque, semi-transparent 4) Opaque, transparent

**Q. 67. Arrange the given parts of digestive system in order.**

- (a) Small intestine (b) Stomach  
(c) Oesophagus (d) Large intestine

- 1) (a), (b), (c), (d) 2) (c), (b), (a), (d)  
3) (d), (c), (a), (b) 4) (b), (c), (a), (d)

**Q. 68. Over exposure of X-rays should be avoided because \_\_\_\_\_**

- 1) they kill cells (2) bones become brittle  
3) they spread disease  
4) they produce burning sensation

**Q. 69. Gum is formed at the stem of Babul tree (Gum arabic tree). Name the process.**

- 1) Growth 2) Excretion  
3) Reproduction 4) Responsiveness to stimuli

**Q. 70. Workers in the industry should use \_\_\_\_\_.**

- 1) hurt a, dhoti 2) shirt, pant  
3) lungi 4) ) overalls

**Q. 71. Where does the inhaled Oxygen mix in the blood?**

- 1) Lungs 2) Alveolus 3) Trachea 4) Diaphragm

**Q. 72. • Look at the adjoining figure. Observe the shadow and guess what could be the time?**

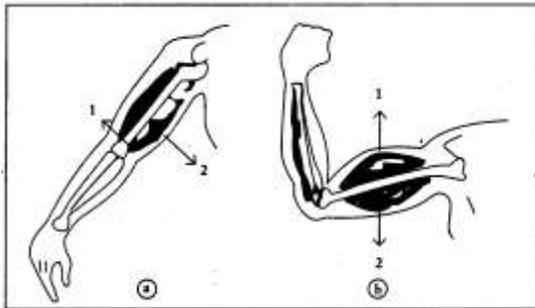


- ① 6.00 pm  
② 3.30 am  
③ 12.30 pm  
④ 11.30 am

**Q. 73. Food chain ends with which factor?**

- 1) Herbivorous animals 2) Carnivorous animals  
3) Plants 4) Micro-organisms

**Q. 74.** When we lift our arm as in figure (b), what happens to muscles no. 1 and no. 2?



- 1) Both muscles contract
- 2) Both muscles relax
- 3) No. 1 contracts and no. 2 relax
- 4) No. 1 relaxes and no. 2 contracts

**Q. 75. Complete the analogy.**

Spread of disease by water : Diseases of stomach : :  
 Spread of disease by air : \_\_\_\_\_

- 1) Diseases of kidney
- 2) Diseases of stomach
- 3) Diseases of lungs
- 4) Diseases of ear

**Q. 76. For safety, electrical appliances are connected to \_\_\_ wire.**

- 1) water
- 2) earth
- 3) metal
- 4) wood

**Q. 77. Which of the following is done so that wells of the villages acquire more water?**

- 1) Sloping agricultural land is divided into smaller flat plots
- 2) Trees are planted on the hills
- 3) Grass is grown on the hills.
- 4) Trenches are dug across the slopes

**Q. 78. Which of the following organs helps in the excretion of waste from human body?**

- 1) Liver
- 2) Skin
- 3) Small intestine
- 4) Stomach

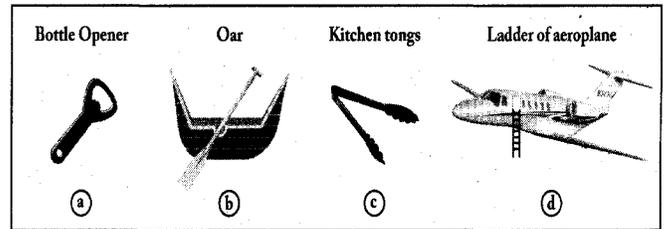
**Q. 79. If magnetic compass is kept near a bar magnet, where it will remain parallel to bar magnet?**

- 1) At the south pole
- 2) At the middle part
- 3) At the north pole
- 4) At any place

**Q. 80. Oil is sprinkled on stagnant water, because due to the oil layer**

- 1) food is unavailable for larvae of mosquito
- 2) larvae suffocate
- 3) mosquitos do not lay eggs
- 4) no fertilisation of eggs of mosquito takes place

**Q. 81. From the given figures, find a figure which is not a lever.**

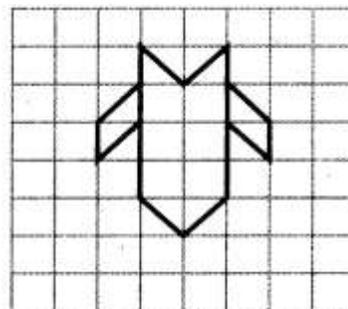


- ① a
- ② b
- ③ c
- ④ d

**Q. 82. Which of the following diseases is eradicated by vaccination?**

- 1) Small pox
- 2) Chicken pox
- 3) Measles
- 4) Diphtheria

**Q. 83. Find the area of the following figure. 1 Square = 1 cm<sup>2</sup>**



- ① 14 cm<sup>2</sup>
- ② 10 cm<sup>2</sup>
- ③ 4.5 cm<sup>2</sup>
- ④ 6.8 cm<sup>2</sup>

**Q. 85. Incidents of sunstroke generally take place at ..... in Summer.**

- 1) Ratnagiri
- 2) Nagpur
- 3) Matheran
- 4) in summer. (?) Mumbai

**Q. 86. Which of the following statements is true for the candle in the figure.**



- ① There is chemical change
- ② There is physical change
- ③ There is physical and chemical change
- ④ There is chemical change; but no physical change

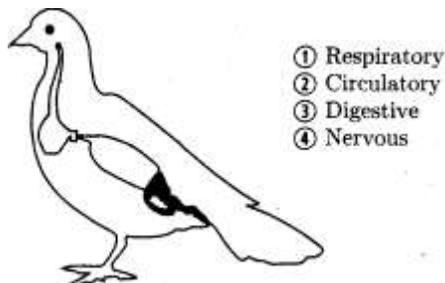
**Q. 87. How rag pickers help in conservation of the environment?**

- 1) They collect wet garbage and prepare manure from it.
- 2) They collect dry garbage and sell it for reuse.
- 3) They sweep the road and clean it.
- 4) They separate dry and wet garbage.

**Q. 88.** While fixing the metal rim on a wooden wheel of a cart, it is heated. After fitting it on the wheel, cold water is poured on it. In this example what type of change takes place in the rim?

- (1) Physical, irreversible (2) Chemical, irreversible  
 (3) Physical, reversible (4) Chemical, reversible

**Q. 89.** Which system of the bird is shown in the figure ?



**Q. 90..... and..... are used to make water of the well bacteria free.**

- 1) Chlorine gas, bleaching powder  
 2) Bleaching powder, Potassium permanganate  
 3) Potassium permanganate, alum  
 4) Bleaching powder, alum

**Q. 91.** For social awareness of which disease ' X ' sign in red colour is used?

- 1) Cancer (2) AIDS (3) T. B. (4) Hepatitis

**Q. 92.** Which statement is true for plants?

- 1) Plants breathe only at night.  
 2) In plants, photosynthesis occurs in the daytime and breathing at night.  
 3) In plants, photosynthesis occurs in the day time and breathing occurs in both day and night.  
 4) In plants, both photosynthesis and breathing occur in day and night.

**Q. 93.** Which of the following gases cause acid rain ?

- 1) Sulphur dioxide (2) Carbon monoxide  
 (3) Ammonia (4) Ozone

**Q. 94.** Figure shows 24 hour clock. Dark portion of it shows sleeping period of giraffe. How much time the giraffe sleeps?



- 1) 1 hour (2) 2 hours (3) 5 hours (4) 23 hours

**Q. 95.** Which of the following is the cause of disaster in Malin in Pune ?

- 1) Cloud burst (2) Steep slope  
 3) Land slide (4) Earthquake

**Q. 96.** Which of the following plants has two edible parts? (i.e. root, stem etc.)

- 1) Fenugreek (2) Potato (3) Sweet Potato (4) Carrot

**Q. 97.** Find the odd musical instrument out of the four.

- 1) Been (2) Shahanai (3) Flute (4) Sitar

**Q. 98.** Molecule of SO<sub>2</sub> contains one atom of Sulphur and two atoms of Oxygen.

Molecule of Ca(OH)<sub>2</sub> contains one atom of Calcium two atoms, of Oxygen and two atoms of Hydrogen. Then molecule of Ca(NO<sub>3</sub>)<sub>2</sub> contains \_\_\_\_\_'

- 1) 1 atom of Calcium, 1 atom of Nitrogen and 3 atoms of Oxygen.  
 2) 2 atoms of Calcium, 2 atoms of Nitrogen and 6 atoms of Oxygen.  
 3) 1 atom of Calcium, 2 atoms of Nitrogen and 6 atoms of Oxygen.  
 4) 2 atoms of Calcium, 1 atom of Nitrogen and 3 atoms of Oxygen.

**Q. 99.** Find the odd mixture out of the four.

- 1) Air (2) Salt solution (3) *Bhel* (4) Alloy

**Q. 100.** 'El nino' which affects south-west wind is a band'of warm water in \_\_\_\_\_.

- 1) Bay of Bengal (2) Arabian sea  
 3) Pacific ocean (4) Indian ocean .

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**Standard VI Answer Sheet 2013 (with Explanations)**

**A. 1. (3)**

**A. 2. (3) Explanation:** Coal, wood and *karanja* are fuels. Glass cannot be used as fuel.

A. 3. (3)

**A. 4. (4) Explanation:** First three reasons increase severity of energy crises.

**A. 5. (1) Explanation:** Density of ice is less than that of water. Density of sea water

is more than river water because of the dissolved salts.

**A. 6. (2) A. 7. (4) A. 8. (3) A. 9. (2)**

**Explanation:** Tendril of grapevine is a stem modification. Similarly thorns are modified leaves.

**A. 10. (4) Explanation:** In all other pairs, one change is physical and the other one is chemical. But in option (4), both the changes are physical.

**A. 11. (1) Explanation:** Drip irrigation is an irrigation method that saves water by allowing water to drip slowly to the roots of the plants. The water does not get lost in any manner till it reaches the target (i. e. to the crop) from the source. Sugarcane cultivation requires large amount of water (almost 70% of the total water required for cultivation in Maharashtra). Hence drip irrigation is the best possible irrigation method for sugarcane.

**A. 12. (3) Explanation:** When equal amount of hot and cold water are mixed together, heat flows from hot water to cold water and bring them to equilibrium at a temperature intermediate to that of the hot water and cold water.

$(T + T)$  The temperature of the mixture is  $\frac{T_1 + T_2}{2}$ .

In this example, it will be  $\frac{30^\circ\text{C} + 50^\circ\text{C}}{2} = 40^\circ\text{C}$

$\frac{30 + 50}{2} = 40$

**A. 13. (1) Explanation:** Seabreeze flows from the sea to the land. The land gets

heated faster than sea water. Air above the land gets hot and move upwards. Air above the sea move towards the land as a seabreeze to fill the gap.

**A. 14. (2) Explanation:** When we wash clothes using soap, there is a chemical reaction between the dirt and the soap. So this is a chemical change. All other options represent physical change.

[ Answer Sheet 2013 ]

**A. 15. (1) Explanation:** Chlorine gas dissolved in water kills the bacteria. It does not separate the soluble or insoluble impurities.

**A. 16. (1) Explanation:** Water and stone both occupy space. Hence when stone is

immersed in a cup full of water, water spills out. **A. 17.**

**(3) A. 18. (3) Explanation:** Carbon dioxide is dissolved in aerated drinks under pressure.

When the bottle is opened, pressure decreases and the gas gushes out with drink.

**A. 19. (3) Explanation:** Air contains fungal spores. The spores get moisture and

nutrition from air and jam respectively. They germinate on jam and fungal growth takes place.

**A. 20. (3) Explanation:** When a copper or brass utensil is used for cooking, the metal reacts with organic acids present in the foodstuff to form products that may cause food poisoning. A bright white coating of Tin protects the metal from any possible chemical reaction.

**A. 21. (4)**

**A. 22. (3)'**

**A. 23. (2) Explanation:** Vitamin B and vitamin C are soluble in water. If we wash a vegetable after cutting, these vitamins get dissolved in water and get lost.

**A. 24. (4) Explanation:** In human beings, the thumb is not attached to other fingers and can be brought in front of other fingers. Hence, human beings can hold a pen in hand and write with it.

**A. 25. (2) Explanation:** Pulses are kept on a wet cotton in test tube B. They get both air and water in this condition and can germinate.

**A. 26. (3) .**

**A. 27. (3) .**

**A. 28. (2) Explanation:** Saliva (secreted by salivary glands in the mouth) dissolves some of the chewed food and act as a lubricant while passing the food through the digestive tract. Saliva also contains a starch digesting enzyme called amylase (ptyalin). In this way, the process of digestion begins in the mouth itself.

**A. 29. (2) Explanation:** During the annual pilgrimages like *Ashadhi Ekadashi*, people gather in huge numbers thereby straining the civic systems. There is a chance of water getting

contaminated in such situations and this may spread epidemic like cholera. Hence, preventive measure like vaccination is advised.

( Answer Sheet 2013 )

**A. 30. (2) Explanation:** In a nut cracker, the fulcrum is at one end. force is applied at the other end and the load is in the middle. Hence it is the lever of second type.

**A. 31. (3) A. 32. (2) A. 33. (2) A. 34. (2) Explanation:** Transmission of sound requires some medium (e. g. air). Hence, if there was no atmosphere around Earth, we would not have heard any voice. **A. 35. (2) Explanation:** The car will move 10 km in first 15 minutes and 15 km in next 15 minutes. Total movement will be 25 km.

**A. 36. (3) Explanation:** Battery requires much more time to disintegrate as compared to bones, woolen clothes and dry leaves.

**A. 37. (1) Explanation:** Solubility of a solution decreases when temperature is decreased. **A. 38. (4) A. 39. (3) Explanation:** Meat of sheep can be consumed, as food, wool is used in

clothing and excreta is used as manure. **A. 40. (3) A. 41. (4) Explanation:** Method of separation of substances from mixture depends upon ingredients of the mixture as well as on the substance we want to separate out of the mixture. **A. 42. (3) A. 43. (1)**

**Explanation:** Bones of young children are flexible, so they do not break. Instead, they get a crack. **A. 44. (4) A. 45. (4) Explanation:** Wheels of the moving car rotate around the axel and also move in the forward or backward direction. **A. 46. (1) A. 47. (3) A. 48. (4) A. 49. (1) A. 50. (2) Explanation:** Androecium and gynoecium of the flower are essential for reproduction. **A. 51. (3)**

**A. 52. (3) Explanation:** After invention of farming, human beings got assured supply of food at a specific geographical location. This prompted human beings to settle at a particular place.

**A. 53. (4) Explanation:** In third order lever, fulcrum is at one end and load is at another end. Force is applied in between. Distance between fulcrum and force is less than the distance between fulcrum and the load.

**A. 54. (2) Explanation:** When we apply brakes, due to friction between brakes and wheels, the speed of the car reduces. **A. 55. (2) . A. 56. (2)**

**A. 57. (1) . A. 58. (1) A. 59. (2) • A. 60. (2) Explanation:** When a blast takes place, chemical energy is converted into sound energy. When glass windows shatter, kinetic energy is produced from the sound energy. **A. 61. (3) A. 62. (1) A. 63. (1) A. 64. (3)**

**A. 65. (2) . A. 66. (3) A. 67. (2) Explanation:** From the mouth, food enters into oesophagus and goes to stomach. From there, it goes to small intestine and then to the large intestine.

**A. 68. (1) Explanation:** If body is over exposed to X-rays, the rays kill body cells.

**A. 69. (2) Explanation:** Gum is excretory product of trees.-**A. 70. (4)**

**A. 71. (2) Explanation:** Alveoli have very thin membrane and are surrounded by blood vessels. So, Oxygen from inhaled air can mix with blood in alveolus.

**A. 72. (1) Explanation:** As the shadows are long, it must be early morning or evening. Since the options does not contain early morning time, the answer is 6.00 pm. .

**A. 73. (4) Explanation:** Micro-organisms decompose the living things after their death.

**A. 74. (3)**

**A. 75. (3)**

**A. 76. (2)**

**A. 77. (4) Explanation:** Trenches across the slope obstruct the down flow of water from the hills. Part of it percolates in soil and increase the ground water level. **A. 78. (2)**

**A. 53. (4) Explanation:** In third order lever, fulcrum is at one end and load is at another end. Force is applied in between. Distance between fulcrum and force is less than the distance between fulcrum and the load.

**A. 54. (2) Explanation:** When we apply brakes, due to friction between brakes and wheels, the speed of the car reduces. **A. 55. (2) . A. 56. (2)**

**A. 57. (1) . A. 58. (1)**

**A. 59. (2) • A. 60. (2) Explanation:** When a blast takes place, chemical energy is converted into sound energy. When glass windows shatter, kinetic energy is produced from the sound energy. **A. 61. (3) A. 62. (1) A. 63. (1) A. 64. (3)**

**A. 65. (2) . A. 66. (3) A. 67. (2)**

**Explanation:** From the mouth, food enters into oesophagus and goes to stomach. From there, it goes to small intestine and then to the large intestine.

**A. 68. (1) Explanation:** If body is over exposed to X-rays, the rays kill body cells.

**A. 69. (2) Explanation:** Gum is excretory product of trees.-**A. 70. (4)**

**A. 71. (2) Explanation:** Alveoli have very thin membrane and are surrounded by blood vessels. So, Oxygen from inhaled air can mix with blood in alveolus.

**A. 72. (1) Explanation:** As the shadows are long, it must be early morning or evening. Since the options does not contain early morning time, the answer is 6.00 pm. .

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[ Answer Sheet 2013 ]

**A. 79. (2) Explanation:** Magnetic force is maximum at the ends and minimum at the centre of a magnet.

**A. 80. (2) Explanation:** The Oil layer on the surface of water cuts down Oxygen

supply, thereby reducing number of larvae. • **A. 81.**

(4) **A. 82. (1) A. 83. (2) Explanation:** In the figure, we have 6 complete squares and 8 half squares.

Hence, area is  $6 + 8/2 = 10 \text{ cm}^2$

**A. 84. (4) Explanation:** 1 metric ton = 1,000 kg .

• 1 kg = 1,000 gm.

∴ 1 metric ton = 1,000 x 1,000 = 10,00,000 gm.

**A. 85. (2) Explanation:** Of the given options, Nagpur falls in the extreme climate category.

**A. 86. (3) Explanation:** The figure shows burning of wax (candle) and melting of wax. These are chemical and physical changes respectively.

**A. 87. (2)**

**A. 88. (3)**

**A. 89. (3)**

**A. 90. (2)**

**A. 91. (2)**

**A. 92. (3) Explanation:** Plant is a living organism. So it breaths day and night like us. Photosynthesis requires sunlight. So this process takes place only during daytime.. ; ..

**A. 93. (1) Explanation:** When Sulphur dioxide dissolves in water, Sulphurous acid is formed. This causes acid rain. All other gases given in the options do not form any acid when they dissolve in the water.

**A. 94. (2)**

**A. 95. (4)**

**A. 96. (1)**

**A. 97. (4)**

**A. 98. (3)**

**A. 99. (3) .**

**A. 100. (3)**

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