

SITE-2011
SCIENCE
Class: VI
PHYSICS AND CHEMISTRY

- 1. A horse pulls a cart with a force of 2000 N. The force of friction between the earth and the ground is 500N. What is the resultant force on the cart?**
 - a. 2500 N
 - b. 0 N
 - c. 1500 N
 - d. 2500 N

- 2. Woollen sweaters keep us warm by**
 - a. trapping a layer of air
 - b. trapping a layer of dust
 - c. keeping the surrounding air cold
 - d. loss of heat from our body

- 3. Which of the following are the properties of a plane mirror image?**
 - a. The image is the same size as the object
 - b. The image is virtual
 - c. Laterally inverted
 - d. All of the above.

- 4. Which of the following measurement have not been expressed in correct SI unit?**
 - a. 5m of cloth
 - b. 20 seconds of time
 - c. surface area of 25cm²
 - d. 2 kg cooking oil

- 5. The level of water in a measuring cylinder is 12.5ml. When a stone is lowered in it, the level of the water becomes 21.0 ml. What is the volume of the stone?**
 - a. 7.5 ml
 - b. 33.5 ml
 - c. 3.35 ml
 - d. 8.5 ml

- 6. The space occupied by an object is called**
 - a. Volume
 - b. area
 - c. length
 - d. none of these

- 7. The motion of the seconds hand of a clock is**
 - a. Circular
 - b. rotational
 - c. translatory
 - d. curvilinear

8. Which of the following is not in periodic motion?

- a. A fan moving at constant speed
- b. A swinging pendulum
- c. Rotation of Earth
- d. A flying kite

9. A box is given a push across the floor. It comes to a stop shortly after. Which one of the following reasons explains why this happens

- a. Gravity is acting in the box in the direction opposite to the box's movement
- b. Friction is acting on the box in the same direction of the box's movement
- c. Friction is acting on the box in the direction opposite to the box's movement
- d. The heat produced by the box's movement slows down the box.

10. In which material can light transmit best?

- a. A glass block
- b. A piece of blank paper
- c. A spot of blank ink
- d. A piece of butter paper

11. Which of the following is a natural luminous surface?

- i. Candle
 - ii. Glow worm
 - iii. Torch light
 - iv. Sun
- a) (i) & (ii) b) (ii) & (iv) c) (ii) & (iii) d) (i) & (iv)

12. A pin hole camera uses the principle of

- a. Rays
- b. Beam
- c. reflection
- d. Rectilinear propagation

13. When an object is moved away from a light source, it

- a. Casts a smaller shadow
- b. Casts a bigger shadow
- c. Does not cast a shadow
- d. Becomes black in colour

14. The filament of a bulb in a closed circuit fuses when

- a. Too few batteries are used
- b. Too many batteries are used
- c. The wires used are too short
- d. The wires used are too long

15. Which of these will generate electric current when kept in sunlight but not when kept in the dark?

- a. Dry cell
- b. Car battery
- c. Button cell
- d. Solar cell

16. Commonly used safety fuse wire is made up of

- a. tin
- b. lead
- c. nickel
- d. an alloy of tin and lead

17. The magnetic strength of a magnet

- a. Is uniform throughout the body of a magnet
- b. Is concentrated at one point called the pole of the magnet
- c. Is concentrated in two regions called the poles of the magnet
- d. Is concentrated in the centre of the magnet.

18. Study the diagram shown. Which of the following statements hold correct when the two magnets are brought closer together



- a. They repel each other
- b. They pull each other
- c. They lose their magnetic power
- d. They become weaker

19. A rectangular piece is brought near the north pole of a magnet. It gets attracted to the magnet. Then it is brought near the south pole of the magnet, again it gets attracted.

The rectangular piece is

- a. A magnet and the end which is brought near the magnet is the south pole.
- b. A magnet and the end which is brought near the magnet is the north pole.
- c. Not a magnet but a simple piece of magnetic material
- d. Not a magnet but a simple piece of non-magnetic material

20. Glowing of an electric bulb involves

- a. Change of colour
- b. Change of temperature
- c. Physical and reversible change
- d. All of the above

- 21. The smell of delicious sambar which is being cooked in the kitchen is due to**
- diffusion
 - evaporation
 - solubility
 - sublimation
- 22. The process of removing dissolved salt from sea water to get fresh water is known as**
- Desalination
 - Condensation
 - Purification
 - Recycling
- 23. Which of the following processes does not absorb heat?**
- Boiling
 - Melting
 - Evaporation
 - Freezing
- 24. Mountaineers carry oxygen cylinders with them because**
- oxygen supports combustion
 - air becomes thinner as we go higher
 - air is dense but lacks oxygen in mountains.
 - We don't get pure air there.
- 25. A mixture of iron filings and tea leaves can be separated by**
- sieving
 - Hand-picking
 - Magnetic separation
- 26. Lightning is a ----- and ----- change**
- fast, physical
 - fast, chemical
 - slow, reversible
 - slow, irreversible
- 27. The making of a ring from pure gold is a ----- change while making of a statue from wood is a ----- change.**
- Reversible, irreversible
 - Chemical, physical
 - Irreversible, reversible
 - physical, chemical
- 28. Air is a mixture because**
- It does not have any fixed ratio of its constituents.
 - It has a definite ratio of its constituents
 - It has with elements and compounds

d. colourless & odourless

29. Which of these is not caused by friction?

- a. wear of tear
- b. falling of leaves from a tree
- c. opposing of motion
- d. All of the above

30. Camphor is separated from common salt by

- a. Distillation
- b. Sublimation
- c. Evaporation
- d. Filtration

31. Name the mineral which is present in limestone

- a. calcite
- b. bauxite
- c. pyrite
- d. haematite

BIOLOGY

1. Pinus is a _____

- a. Naked – seeded plant
- b. Closed – seeded plant
- c. Monocotyledonous plant
- d. Dicotyledonous plant

2. _____ is a nocturnal animal.

- a. Dog
- b. Elephant
- c. Lizard
- d. Snakes

3. Allium sativum is the scientific name of _____.

- a. Ginger
- b. Garlic
- c. Onion
- d. Banyan tree

4. Phylloclade is a modified _____, whereas a pitcher is a modified _____.

- a. Rhizome, Leaf
- b. Root, Stem
- c. Flower, Stem
- d. Stem, Leaf.

5. Xylem and Phloem transports

- a. food materials and water respectively
- b. water and food materials respectively
- c. water only
- d. food materials only

6. After fertilization, the part that develops into a seed is _____.

- a. Ovary
- b. Pollen grains
- c. Ovules
- d. Pistil

7. Pick out the correct sequence of the digestive events.

- a. Ingestion, digestion, absorption, assimilation and egestion.
- b. Ingestion, absorption, digestion, assimilation and egestion.
- c. digestion, absorption, assimilation, ingestion and egestion
- d. Digestion, assimilation and egestion

8. Which part of the brain controls all the vital activities such as heart beat and respiration, even when we are sleeping or unconscious?

- a. Cerebellum
- b. Medulla oblongata
- c. Cerebrum
- d. Spinal cord

9. _____ plays a vital role in maintaining the ecological balance of an ecosystem by recycling the nutrients.

- a. Green plants.
- b. Carnivores
- c. Omnivores
- d. Saprophytes

10. _____ is the most fertile soil that is rich in humus.

- a. Red soil
- b. Laterite soil
- c. Alluvial soil
- d. Black soil

SMART INDIA TALENT EXAMINATION-2011

Std: VI

MATHEMATICS

Marks: 30marks

Time : 60 min.

PART – I

1) The successor of 306, 999 is _____.

- (a) 3069100 (b) 307000 (c) 317000 (d) 310000

2) The greatest five digit number by using any digit twice from 7, 5, 3 is

- (a) 77,375 (b) 77,533 (c) 77,553 (d) 77,533

3) Given that $1 + 2 + 3 + \dots + n = \frac{n(n+1)}{2}$ then the value of $2 + 4 + 6 + \dots + 100$ is

- (a) 2550 (b) 5050 (c) 1275 (d) 2000

4) The number which when divided by 13 gives a remainder equal to 9 is

- (a) 656 (b) 685 (c) 763 (d) 169

5) The value of $|-10| - |5| =$ _____

- (a) -15 (b) 15 (c) 5 (d) -5

6) An operation $*$ for integers a & b is defined as $a * b = a + b + 5$, then the value of $(-8) * (-4)$ is

- (a) 9 (b) -17 (c) -7 (d) -1

7) The *H.C.F.* of two numbers 28 and their *L.C.M.* is 336. If one number is 112, then the other is _____

- (a) 64 (b) 84 (c) 34 (d) 92

8) The shaded part in the figure represents

- (a) $1\frac{1}{4}$ (b) $1\frac{1}{2}$ (c) $1\frac{3}{4}$ (d) $2\frac{1}{4}$



9) When 2.48359 is rounded off to 3 decimal places, the value is

- (a) 2.483 (b) 2.490 (c) 2.483 (d) 2.484

10) The expanded form of 4.05 is _____

- (a) $4 \times 1 + \left(5 \times \frac{1}{10}\right)$ (b) $\left(4 \times 10 + 5 \times \frac{1}{100}\right)$
(c) $\left[4 \times 10 + \left(5 \times \frac{1}{100}\right)\right]$ (d) $\left(4 \times 1 + 5 \times \frac{1}{100}\right)$

11) The next number in the given series is 6, 9, 15, 21, ____

- (a) 24 (b) 27 (c) 31 (d) 33

12) The value of $3a + 2b - c = \underline{\hspace{2cm}}$ given that $a = 2, b = 3, c = -5$

- (a) 6 (b) 10 (c) 17 (d) 7

13) The two consecutive multiples of 7 whose sum is 329 are

- (a) 154, 161 (b) 161, 168 (c) 119, 210 (d) *None of these*

14) A profit of Rs. 9100 is divided between A, B and C in the ratio

$\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$, the share of B is

- (a) Rs. 4200 (b) Rs. 2100 (c) Rs. 2800 (d) Rs. 1700

15) The shadow of a tree is 8m, while shadow of a stick of length 3m is 2m. The height of the tree is

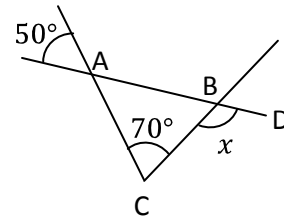
- (a) 8m (b) 10m (c) 12m (d) 14m

16) The side of a square is doubled then the area will be increased by

- (a) 2 times (b) 4 times (c) 6 times (d) No change

17) The value of $\angle CBD$ in the figure is _____

- (a) 110°
- (b) 120°
- (c) 60°
- (d) 50°

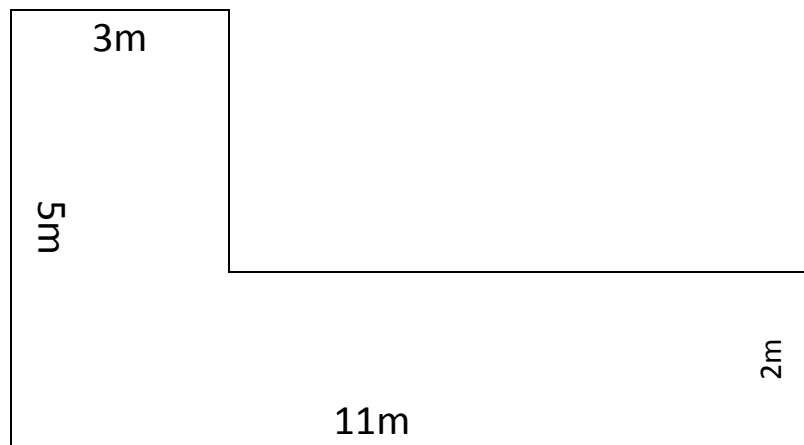


18) Can 2.8cm, 1.4cm and 4 cm be the sides of a triangle

- (a) Yes
- (b) No, cannot

19) The area of the given figure is

- (a) $42m$
- (b) $40m$
- (c) $31m$
- (d) $36m$



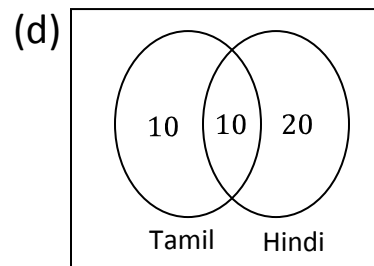
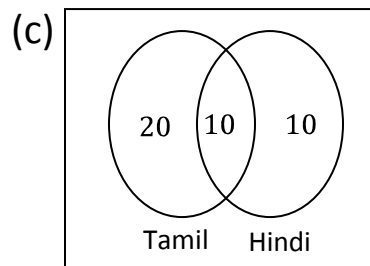
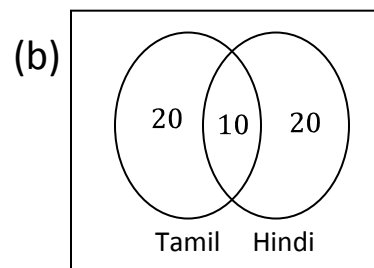
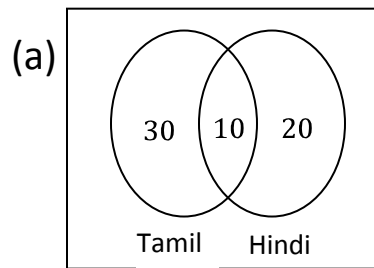
20) Two lines are said to be parallel when they _____ at any point.

- (a) *Do not meet at any point*
- (b) *Make an angle of 90°*
- (c) *When they have two common points*
- (d) *When they lie on the same plane*

21) An isosceles triangle has _____ axis of symmetry.

- (a) No (b) 1 (c) 2 (d) 3

22) In a class of 40 *students*, 20 *students* know Hindi, 30 know Tamil and 10 *students* know both. Which of the following figure represents this information?



23) The perimeter of a rectangle is 12m. Which of the following pair could be the length and breadth?

- (a) 10m, 2m (b) 3m, 3m (c) 4m, 2m (d) 6m, 6m

24) There were 1200 story books in a library. The number is increased by 15% by adding a few more books to the collection. How many books are there at present?

- (a) 1380 (b) 1400 (c) 1215 (d) 1230

25) A man covered $54\text{km } 320\text{m}$ by car, $120\text{km } 210\text{m}$ by train and $1\text{km } 900\text{m}$ by bus to reach his native place. What was the total distance travelled by him?

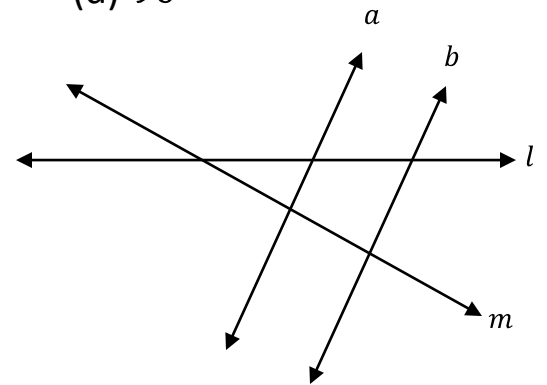
- (a) $175\text{km } 1430\text{m}$ (b) $176\text{km } 430\text{m}$
(c) $175\text{km } 430\text{m}$ (d) $177\text{km } 210\text{m}$

26) The supplementary angle of $\frac{1}{3}$ of 180° is _____.

- (a) 60° (b) 30° (c) 120° (d) 90°

27) The pair of parallel lines in the figure is

- (a) (l, a) (b) (l, m)
(c) (m, a) (d) (a, b)



28) If 22 boxes are needed to pack 132 books, then to pack 144 such books we need _____ boxes.

- (a) 22 (b) 24
(c) 26 (d) 28

29) The value of $\frac{8}{-7} + \left[\frac{-3}{-14} \right]$ on simplification is

(a) $-\frac{23}{14}$

(b) $\frac{-13}{14}$

(c) $\frac{-3}{14}$

(d) $\frac{-33}{14}$

30) The number of faces in a triangular prism is _____.

(a) 4

(b) 5

(c) 7

(d) 9