Mother merry senior secondary school

Jagatpura

ADMISSION TEST

Class 09 - Science

Time Allowed: 40 minutes **Maximum Marks: 30**

1. A brief information about three substances is given in the table.

Substance	Melting point	Boiling point
P	23^oC	60^oC
Q	10^oC	20^oC
R	65^oC	110^oC

Which of the following is incorrect about these substances?

a) At room temperature, substance P will have fixed volume but no fixed shape.
b) None of these
c) At room temperature substance R will have strongest interparticle forces.
d) At room temperature substance Q will have maximum space between the particles.

2. Tincture of iodine has antiseptic properties. This solution is made by dissolving

a) iodine in vaseline
b) iodine in potassium iodide
c) iodine in water
d) iodine in alcohol

3. To prepare iron sulphide, by heating a mixture of iron filings and sulphur powder, we should use a:

a) copper dish
b) china dish
c) watch glass
d) petri dish

4. What information do we get from the molecular formula?

a. It represents one molecule of the substance.
b. It does not tell the name of the substance.
c. It tells about the type of atoms.
d. It represents the formula mass unit of the substance.

a) (b) and (c) are correct
b) All of these
c) (a) and (b) are correct
d) (a), (c) and (d) are correct

5. Which of the following elements are present in Quick lime?

A. Calcium, Oxygen
B. Sodium, Hydrogen, Oxygen
C. Calcium, Bromine
D. Calcium chloride

a) (B)
b) (D)

c) (C)

d) (A)

6. Fill in the gap using given analogy

   Atomic number : Number of protons :: Mass number : _____.

   a) Number of protons + Number of electrons

   b) Number of neutrons + Number of protons

   c) Number of electrons

   d) Number of protons

7. Rutherford's α- scattering experiment led to the conclusion that

   a) atoms are electrically neutral.

   b) the mass and the positive charge of an atom are concentrated in the nucleus.

   c) mass and energy are inter-related.

   d) neutrons are present in the nucleus.

8. 1 mole of diatomic element X_2 contains 34 and 40 moles of electrons and neutrons respectively. The isotopic formula of the element is

   a) ${}^{40}_{34}X$

   b) ${}^{37}_{17}X$

   c) ${}^{74}_{40}X$

   d) ${}^{74}_{34}X$

9. Organelle without a cell membrane is

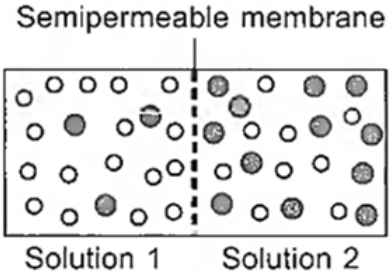
   a) Ribosome

   b) Golgi apparatus

   c) Chloroplast

   d) Nucleus

10. Study the given figure carefully. In which direction the net movement of water will take place?



[Key : O Water molecule; ® Solute molecule]

   a) From solution 1 to solution 2

   b) Both From solution 1 to solution 2 and From solution 2 to solution 1

   c) From solution 2 to solution 1

   d) No movement will take place

11. Robert Brown is a well known scientist as he discovered _____.

   a) Lysosme

   b) Cell

   c) Nucleus

   d) Vacuole

12. One of the following is not a characteristic feature of parenchyma tissue. That feature is:

   a) cells are thin-walled and prominent

   b) a large single vacuole is present in each cell

   c) cells are thick at the corners

   d) large cells are placed together with intercellular spaces

13. Branched involuntary muscles fibres are found in

   a) ureters

   b) limbs

   c) heart

   d) tongue

14. Which muscles act involuntarily?

i. Striated muscles
ii. Smooth muscles
iii. Cardiac muscles
iv. Skeletal muslces

a) (i) and (ii)
b) (i) and (iv)
c) (iii) and (iv)
d) (ii) and (iii)

15. Two cars A and B race each other. The Car A ran for 2 min at a speed of 7.5 km/h, slept for 56 min and again ran for 2 min at a speed of 7.5 km/h. The average speed of the car A in the race is:

a) 10 km/hr
b) 5 km/hr
c) 0.5 km/hr
d) 50 km/hr

16. A body is thrown vertically upwards with velocity u, the greatest height h to which it will rise is

a) $\frac{u}{2g}$
b) $\frac{u^2}{2g}$
c) $\frac{u^2}{g}$
d) $\frac{u}{g}$

17. The minimum number of unequal forces that can make zero resultant is

a) ten
b) four
c) three
d) two

18. Impulse has the S.I. unit of _____

a) newton
b) N-s
c) joule
d) m/s^2

19. A bullet of mass 10 g is fired from a rifle. The bullet tales 0.003 second to move through its barrel and leaves it with a velocity of 300 m/s. What is the force exerted on the bullet by the rifle?

a) 250N
b) 1000 N
c) 400N
d) 200N

20. Acceleration due to gravity on the surface of the earth is the greatest

a) uniform at all places
b) at equator
c) at poles
d) at 23.6^o latitude

21. Any object having sufficient positive energy can escape from the gravitational pull of the earth as

a) K.E. will be more to escape the gravitational potential energy
b) K.E. is negative otherwise
c) Negative energy means it is bound
d) P.E. is positive for total energy being positive

22. Two bodies, one held 1 m vertically above the other, are released simultaneously and fall freely under gravity. After 2 second, the relative separation of the bodies will be

a) 4.9 m
b) 19.6 m
c) 9.8 m
d) 1 m

23. Which one of the following is not the unit of energy?

a) joule
b) kilowatt hour
c) kilowatt
d) newton metre

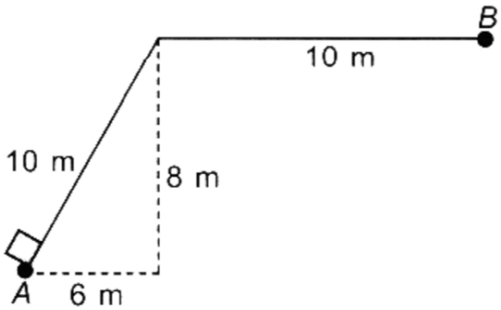
24. When a force retards the motion of a body the work done is:

a) uncertain
b) zero
c) negative
d) positive

25. An elevator with load, weighting 500 kg is moving up with a velocity of 0.2 ms^{-1}. The power of the motor in horsepower is: (1 H.P. = 746 watt)

a) 1
b) 1.5
c) 1.3
d) 1.2

26. A box of 5 kg mass moves up a ramp from point A to point Bat a constant speed. Given that the surfaces are smooth (frictionless). What is the gain in the potential energy by the box? (g = 10 m/s^2)



a) 400 J
b) 100 J
c) 200 J
d) 220 J

27. Earthquake produces which kind of sound before the main shock wave begins

a) audible sound
b) ultrasound
c) infrasound
d) as a supersonic wave

28. Match the column I with column II and mark the correct option from the codes given here.

Column I	**Column II**
(a) String vibration	(i) Tabla
(b) Membrane vibration	(ii) Bicycle bell
(c) Vibration of air column	(iii) Sitar
(d) Vibration of plate	(iv) Flute

a) (a) - (i), (b) - (iv), (c) - (ii), (d) - (iii)
b) (a) - (ii), (b) - (iii), (c) - (i), (d) - (iv)
c) (a) - (iv), (b) - (ii), (c) - (iii), (d) - (i)
d) (a) - (iii), (b) - (i), (c) - (iv), (d) - (ii)

29. Which of the following are Indian cattle?

i. *Bos indicus*
ii. *Bos domestica*
iii. *Bos bubalis*
iv. *Bos vulgaris*

a) (ii) and (iii)
b) (i) and (ii)
c) (i) and (iii)
d) (iii) and (iv)

30. Which of the following is the high milk yielding variety of a cow?

a) Red sindhi
b) Holstein
c) Dorset
d) Sahiwal