Mother merry senior secondary school

Jagatpura

ADMISSION TEST FOR CLASS -11

Class 10 - Science

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

1. $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$

   The reaction is

   a) Double displacement reaction
   b) Displacement reaction
   c) Precipitation reaction
   d) Combination reaction

2. When iron filings are added to a solution of $CuSO_4$, the reaction taking place is a-

   a) Redox reaction
   b) Combination reaction
   c) Displacement reaction
   d) Decomposition reaction

3. The salt present in tooth enamel is:

   a) Magnesium phosphate
   b) Aluminium phosphate
   c) Calcium phosphate
   d) Sodium phosphate

4. Soda-lime is a mixture of NaOH and CaO. What is the ratio of NaOH and CaO in soda-lime?

   a) 0.0854166666667
   b) 0.125694444444
   c) 0.04375
   d) 0.126388888889

5. Acetic acid was added to a solid X kept in a test tube. A colourless, odourless gas Y was evolved. The gas was passed through lime water, which turned milky. It was concluded that

   a) X is sodium bicarbonate and Y is SO_2
   b) X is sodium bicarbonate and Y is CO_2
   c) X is sodium acetate and Y is CO_2
   d) X is sodium hydroxide and Y is CO_2

6. Which of the following is an alloy of copper and tin?

   a) Constantan
   b) Brass
   c) Nichrome
   d) Bronze

7. Substance W does not conduct electricity under any condition, X conducts electricity only in aqueous solution, Y conducts electricity in both the molten and solid states while Z conducts electricity in both the molten state and in aqueous solution. Substances W, X, Y and Z could be respectively

   a) S, NaCl, HCl and Pb
   b) HCl, S, NaCl and Pb
   c) Pb, HCl, NaCl and S
   d) S, HCl, Pb and NaCl

8. Name the reducing agent in the following reaction**:** $3MnO_2 + 4Al \rightarrow 3Mn + 2Al_2O_3$

   a) Al_2O_3
   b) Al
   c) MnO_2
   d) Mn

9. Consider the following statements about homologous series of carbon compounds:

a. All succeeding members differ by -CH_2 unit.

b. Melting point and boiling point increases with increasing molecular mass.

c. The difference in molecular masses between two successive members is 16 u.

d. C_2H_2 and C_3H_4 are **NOT** the successive members of alkyne series.

The correct statements are -

a) (b) and (c)
b) (a) and (c)
c) (c) and (d)
d) (a) and (b)

10. Which of the following properties is not true regarding organic compounds?

a) They are generally covalent compounds.
b) Compounds have high melting and boiling points.
c) Generally insoluble in water.
d) Show isomerism

11. Cramps are caused by heavy exercise resulting in the accumulation of

a) Heat
b) Ethanol
c) Carbon dioxide
d) Lactic acid

12. Which neuron carries impulses from receptor to brain?

a) Both Sensory neuron and Motor neuron
b) Motor neuron
c) Neither Sensory neuron and Motor neuron
d) Sensory neuron

13. The junction between the axon of one neuron and dendrite of the next is called

a) A synapse
b) A joint
c) Junction point
d) Constant bridge

14. Vegetative propagation refers to formation of new plants from

a) stem, roots and flowers
b) stem, flowers and fruits
c) stem, roots and leaves
d) stem, leaves and flowers

15. During adolescence, several changes occur in the human body. Mark one change associated with sexual maturation in boys

a) increase in height
b) cracking of voice
c) loss of milk teeth
d) weight gain

16. A trait in an organism is influenced by

a) Both maternal & Paternal DNA
b) Paternal DNA only
c) Neither maternal nor paternal DNA.
d) Maternal DNA only

17. Which of the following is not a character selected by Mendel?

A. Flower shape
B. Pod colour
C. Pod position
D. Branch length

a) A and C
b) A, B and D
c) A and D
d) B and C

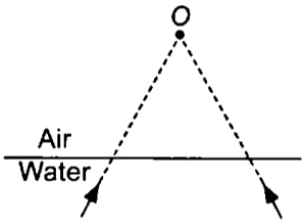
18. Which colour of light has the longest wavelength?

a) Violet
b) Green
c) Yellow
d) Red

19. The refractive indexes of four substances P, Q, R, and S are 1.77, 1.50, 2.42, and 1.31 respectively. When light travelling in air is incident on these substances at equal angles, the angle of refraction will be the maximum in:

a) substance S
b) substance P
c) substance Q
d) substance R

20. A converging set of rays, travelling from water (with refractive index $\frac{4}{3}$ to air) is incident on a plane interface, the rays would have converged to a point 0,40 cm above the interface. However, due to refraction the rays will bend. At what distance above the interface will the rays actually converge?



a) 30 cm
b) 53.3 cm
c) 25 cm
d) 10 cm

21. The lens of the eye can become thicker and thinner. Why is this flexibility useful?

a) The lens is not likely to break.
b) The lens allows the eye to focus on far objects as well as near objects.
c) The eye can move up, down, left and right.
d) The lens can allow varying amounts of light to enter the eye.

22. When a beam of white light passes through a region having very fine dust particles, the colour of light mainly scattered in that region is:

a) Red
b) Blue
c) Orange
d) Yellow

23. S.I. unit of electrical resistivity is

a) ohm · metre
b) ohm per metre^2
c) ohm · metre^3
d) ohm per metre^3

24. A resistance of 25 Ω is connected to a 12 V battery. The heat energy in joules generated per minute:

a) 300 J
b) 347.6 J
c) 345.6 J
d) 355.7 J

25. The bulb is linked to the accumulator of electromotive force 90 V, with insignificant internal resistance, where the three resistors are 3 Ω, 6 Ω, and 9 Ω are connected collaterally. Evaluate the current via each resistor and the total current drained from the accumulator.

a) 15 A

b) 30 A

c) 55 A

d) 75 A

26. Which of the following property of a proton can change while it moves freely in a magnetic field?

a) momentum

b) speed

c) acceleration

d) mass

27. H_1 and H_2 are heats produced by two copper wires have the same length and different diameters when they are connected series and parallel respectively. From the above, we infer what of the following?

a) $H_1 > H_2$

b) $H_1 < H_2$

c) $H_1 \neq H_2$

d) $H_1 = H_2$

28. What is the current rating of domestic circuits used for appliances like an electric bulb, tube light, and fans?

a) 15 ampere

b) 2 ampere

c) 5 ampere

d) 10 ampere

29. An agriculture / crop land is:

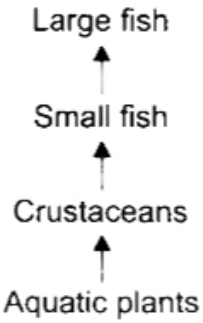
a) A community of plants and animals only

b) A natural ecosystem

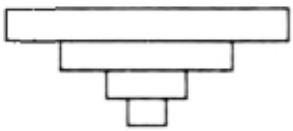
c) An artificial ecosystem

d) A biomes

30. The given diagram shows a food chain. Which of the following represents a pyramid of biomass based on the given food chain?



a) 

b) 

c) 

d)