Mother merry senior secondary school

Jagatpura

ADMISSION TEST FOR CLASS -11

Class 10 - Science

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

1. Choose a displacement reaction:

   a) Burning of metals
   b) Addition of more active metal to a solution of a less active metal compound.
   c) Extraction of metals
   d) Electrolysis

2. $MnO_2 + 4HCI \rightarrow MnCl_2 + 2H_2O + Cl_2$

   The reaction given above is a redox reaction because in this case:

   a) MnO_2 is oxidised and HCl is reduced.
   b) MnO_2 is reduced and HCl is oxidised.
   c) HCl is oxidised.
   d) MnO_2 is reduced.

3. The acid produced in our stomach during digestion and the base used to neutralise the excess acid during indigestion respectively are:

   a) HCl, $Mg(OH)_2$
   b) Lactic acid, $Mg(OH)_2$
   c) Amino acids, $Ca(OH)_2$
   d) HCl, $Ca(OH)_2$

4. A visually challenged student, has to perform a lab test to detect the presence of acid in a given solution. The acid-base indicator preferred by him will be:

   a) Blue litmus
   b) Hibiscus extract
   c) Clove oil
   d) Red cabbage extract

5. Formic acid is found in

   a) Spinach
   b) Curd
   c) Ascorbic acid
   d) Ant's sting

6. Copper utensils slowly lose their shiny brown surface and gain a green coat on prolonged exposure to atmospheric air. This is due to the formation of a coating of

   a) Cuprous oxide
   b) Cupric oxide
   c) Copper carbonate
   d) Copper sulphate

7. Which of the following has an electrovalent bond(s)?

   A. CaF
   B. NaCl
   C. MgO
   D. CO_2

   a) A and C
   b) A, B and C

c) All of these

d) C and D

8. A metal **X** is used in thermite process. When X is burnt in air it gives an amphoteric oxide **Y**. **X** and **Y** are respectively:

a) Fe and Fe_3O_4

b) Al and Al_3O_4

c) Fe and Fe_2O_3

d) Al and Al_2O_3

9. Oils on treating with hydrogen in the presence of palladium or nickel catalyst form fats. This is an example of

a) Addition reaction

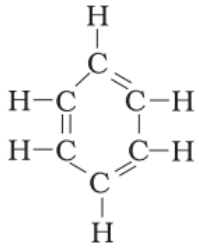
b) Displacement reaction

c) Oxidation reaction

d) Substitution reaction

10. Structural formula of benzene is

a)



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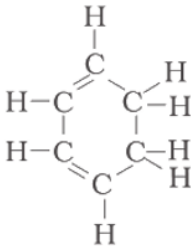

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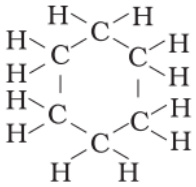

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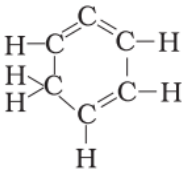


11. The kidneys in human beings are a part of the system for

a) respiration

b) excretion

c) nutrition

d) transportation

12. In an airtight experimental set-up which was used by you in the laboratory to study respiration in germinating seeds, the seeds obtained the oxygen for respiration from

a) water in the germinating seeds

b) water in the beaker

c) water used for soaking the seeds

d) air in the flask

13. If the parathyroid gland is damaged, there may be a

a) rise in phosphorus level

b) rise in calcium level

c) fall in calcium level

d) fall in phosphorus level

14. The shape of guard cells changes due to change in the

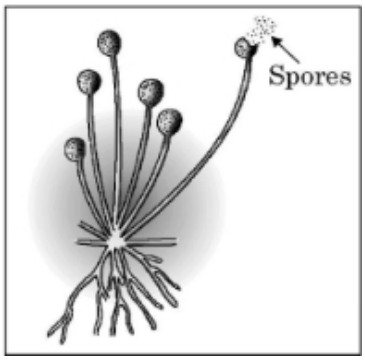
a) amount of water in cells

b) temperature of cells

c) position of nucleus in the cells

d) protein composition of cells

15. Which one of the following organism is represented by this diagram?



a) Yeast
b) Planaria
c) Spirogyra
d) Rhizopus

16. Which of the following is a characteristic of wind pollinated flowers?

a) Flowers are small with nectar and fragrance.
b) Pollen grains are light, small and dusty whereas the stigma is hairy and feathery.
c) Pollen grains are heavy and dry whereas the stigma is short and sticky.
d) Flowers are brightly coloured.

17. Two species of hen X and Y breed in the month of April and November respectively. They cannot interbreed due to _____.

a) Physiological isolation
b) Behavioural isolation
c) Temporal isolation
d) Mechanical isolation

18. The chromatids are joined to each other by

a) Centriole
b) Centromere
c) Spindle
d) Aster

19. The formula which gives the relationship between the object distance, image distance and focal length of the spherical mirror is:

a) $\frac{1}{v} = \frac{1}{u} + \frac{1}{f}$
b) $\frac{1}{v} - \frac{1}{u} = \frac{1}{f}$
c) $\frac{1}{v} + \frac{1}{u} = \frac{1}{f}$
d) $\frac{1}{v} = \frac{1}{u} + \frac{1}{f}$

20. An achromatic lens has a focal length of 10 cm. At what distance should the mirror from the lens be settling so that it forms an image at 20 cm from the lens and also calculate the amplification produced by the achromatic lens?

a) u = 1.25 cm and m = 12.05 cm
b) u = -0.02 cm and m = 20 cm
c) u = 20 cm and m = 10 cm
d) u = -1.05 cm and m = 19.05 cm

21. Consider four mediums P, Q, R and S whose refractive indices are 2.14, 1.99, 2.98, and 2.16 respectively. Assume that if light travels from one medium to another. Calculate the rate of change will be utmost in which medium.

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

22. Match the column I with column II and select the correct option from the codes given here.

Column I	**Column II**
(a) Choroid	(i) Detects light stimulus

(b) Retina	(ii) Absorbs light and prevent it from being reflected within the eyeball
(c) Cornea	(iii) Controls the size of pupil
(d) Iris	(iv) Helps to focus light as it enters the eye

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

23. Hypermetropia can be corrected by:

a) Concave lens
b) Plano-concave lens
c) Convex lens
d) Plano-convex lens

24. Which of the following instruments does not have plus (+) or minus (-) sign marked on it while representing in a circuit diagram?

a) Galvanometer
b) Ammeter
c) Cell
d) Rheostat

25. An electric fuse works on the:

a) chemical effect of current
b) lighting effect of current
c) heating effect of current
d) magnetic effect of current

26. A cylindrical conductor of length **l** and uniform area of cross section **A** has resistance **R**. The area of cross section of another conductor of same material and same resistance but of length **2l** is

a) $\frac{A}{2}$
b) 2A
c) 3A
d) $\frac{3A}{2}$

27. The strength of an electromagnet after the limit cannot be increased by increasing the current through the solenoid. What is the reason behind this phenomenon?

a) Voltage through the solenoid gradually starts to decrease.
b) Electrons start to corrode the solenoid.
c) Resistance of the solenoid increases.
d) Current flowing through the solenoid is saturated.

28. The direction of force acting on a current carrying conductor placed in a magnetic field can be obtained by:

a) Fleming's right hand rule.
b) Ampere's swimming rule.
c) Fleming's left hand rule.
d) Clock face rule.

29. The table below lists some information about the trophic levels of a food chain.

Trophic level	**Number of organisms**	**Energy in the trophic level (arbitrary units)**
P	100	10,000
Q	1	100
R	1000	100,000

S	10	1000

Which of the following food chains is correct?

a) P → 0 → R → S

b) R → P → S → Q

c) P → S → Q → R

d) R → Q → S → P

30. Excessive exposure of humans to UV rays results in**:**

A. Damage to immune system

B. Damage to lungs

C. Skin cancer

D. Peptic ulcers

a) A and C

b) B and C

c) A and B

d) A and D