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SCIENCE MCQ BANK

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INDEX

1. ACIDS, BASES AND SALTS

1. A solution turns red litmus to blue; its PH is likely to be,

a) 1 b) 4 c) 5 d) 10

ANS: d) 10

2. The solution reacts with crushed egg shells to give a gas that turns lime water milky. The Solution contains,

a) NaCl b) HCl c) LiCl d) KCl

Ans: b) Hcl

3. 10 ml of a solution of Na0H is found to be completely neutralised by 8 ml of HCl.

If wetake 20ml of Na0H, the amount of Hcl solution required to neutralise it will be,

a) 10 ml b) 20 ml c) 16 ml d) 30 ml

Ans: C) 16ml

4. Which of the following is used for treating indigestion?

a) Antibiotic b) Analgesic c) Antacid d) Antiseptic.

Ans: c) Antacid.

5. Sodium hydroxide turns phenolphthalein indicator to which colour?

a) Pink b) blue c) Red d) orange

ans: a) Pink

6. Methyl orange is,

a) Pink (red) in acidic medium, yellow in basic medium.

b) Yellow in acidic medium, pink in basic medium.

c) Colourless in acidic medium, pink in basic medium.

d) Pink in acidic medium, colourless in basic medium.

Ans: a) pink in acidic medium, yellow in basic medium.

7. Which of the following is an olfactory indicator?

a) Red cabbage b) Litmus c) Turmeric d) Clove.

Ans: d) clove

8. Sour milk is a natural source of which acid?

a) Citric acid b) Lactic acid c) acetic acid d) oxalic acid

Ans: b) Lactic acid

9. Alkalis are,

a) Acids, which are soluble in water. b) Acids, which are insoluble in water.

c) Bases, which are insoluble in water. d) Bases, which are soluble in water.

Ans: d) bases which are soluble in water.

10. Name the gas released when sodium hydrogen carbonate reacts with hydrochloric acid.

a) Hydrogen b) Carbon di oxide c) Water d) All of these

Ans: b) carbon di oxide.

11. A strong acid is,

a) Completely gets ionised in water. b) Partially gets ionised in water.

c) Do not get ionised in water. d) All of these

Ans: a) completely gets ionised in water.

12. Which of the following will turn red litmus blue?

a) Vinegar b) Lemon juice c) Soft drinks d) Baking soda solution.

Ans: d) Baking soda solution.

13. What happens when carbon di oxide gas reacts with sodium hydroxide?

a) Carbon monoxide is formed. b) sodium carbonate is formed.

c) Carbon di oxide does not react with sodium hydroxide. d) None of these

Ans: c) sodium carbonate is formed.

14. Which of the following compound is formed when Zinc reacts with hydrochloric acid?

a) Zinc chloride b) Zinc sulphate c) Zinc carbonate d) Zinc hydroxide

Ans: a) Zinc chloride

15. " Tap water conducts electricity whereas distilled water does not." The reason for this is,

a) Tap water contains ions which conduct electricity.

b) Tap water contains electrons which conduct electricity.

c) Tap water contains protons which conduct electricity.

d) Tap water contains neutrons which conducts electricity.

Ans: a) Tap water contains ions which conduct electricity.

16. Arrange the following in the increasing order of their PH values.

a) NA0H solution<blood<lemon juice

b) blood<lemon juice<NA0H

c) Lemon juice<blood<NA0H

d) blood<NAOH<lemon juice

Ans: c) lemon juice<blood<NAOH

17. Name the reaction when an acid reacts with a base to produce salt and water.

a) Addition reaction

b) Neutralisation reaction

c) Substitution reaction

d) Oxidation reaction

Ans: b) Neutralisation reaction.

18. Which of the following acid having highest hydrogen ion concentration is one with,

a) PH=2.5 b) PH= 1.8 c) PH= 7 d) PH=10

Ans: PH= 1.8

19. Dissolution of acid in water is,

a) Endosmosis b) Isothermic c) Exothermic d) Endothermic

Ans: Exothermic

20. What is pH

a) The positive logarithm of hydroxide ion concentration.

b) The positive logarithm of hydrogen ion concentration.

c) The negative logarithm of hydroxide ion concentration.

d) The negative logarithm of hydrogen ion concentration.

Ans: d) The negative logarithm of hydrogen ion concentration.

21. The PH of three solutions, X, Y and Z is 6,4 &8 respectively. Which of the following is the correct order of acidic strength?

a) X>Y>Z

b) Z>Y>X

c) Y>X>Z d) Z>X>Y

Ans: c) Y>X>Z

22. Increase in the OH- ion concentration leads to,

a) An increase in the PH of the solution.

b) A decrease in the PH of the solution.

c) Does not alter the PH of the solution.

d) Decreases the basic strength of the solution.

Ans: a) An increase in the PH of the solution.

23. Rain is called acid rain, when its PH is

a) below 7 b) below 6 c) below 5.6 d) above 7

Ans: c) below 5.6

24. Farmers neutralise the effect of acidity of the soil by adding,

a) Gypsum b) Slaked lime c) Caustic soda d) baking soda.

Ans: b) Slaked lime.

25. Tooth enamel is made up of,

a) Calcium carbonate b) Calcium phosphate c) Calcium oxide d) Calcium chloride

Ans: b) Calcium phosphate

26. Nettle sting is a natural source of which acid?

a) Methanoic acid b) Lactic acid c) Citric acid d) Tartaric acid.

Ans: a) Methanoic acid

27. Tomato is a natural source of

a) Acetic acid b) Citric acid c) Lactic acid d) Oxalic acid

ans: d) Oxalic acid

28. What happens when a solution of an acid is mixed with base in a test tube?

i) Temperature increases

ii) Temperature decreases

iii) Remains same

iv) Salt formation takes place

a) (i) & (iv) **b) (i) &(iii)** **c) (ii) &(iii)** **d) (ii) &(iv)**

Ans: a) i &iv

29. What is formed when Zinc reacts with sodium hydroxide.

a) Zinc hydroxide and sodium b) Sodium Zincate and hydrogen gas

c) Sodium Zinc oxide and hydrogen gas d) Sodiumzincate and water

Ans: b) Sodium zincate and hydrogen gas

30. Sodium carbonate is a basic salt because it is a salt of,

a) Strong acid and strong base. b) Weak acid and weak base.

c) Strong acid and weak base d) weak acid and strong base.

Ans: d) Weak acid and strong base.

31. What is the PH range of our body?

a) 7.0-7.8 b) 7.2-8.0 c) 7.0-8.4 d) 7.2-8.4

Ans: a) 7.0-7.8

32. Sodium hydroxide turns phenolphthalein solution into

a) Pink b) yellow c) colourless d) orange

Ans: a) pink

33. Acid present in the apple is,

a) Oxalic acid b) Malic acid c) Acetic acid d) Formic acid

Ans: b) malic acid

34. Generally when certain metals react with an acid they release _____ gas

a) Nitrogen b) Oxygen c) Hydrogen d) Argon

Ans: c) Hydrogen

35. Range of PH scale is

a) 7 to 10 b) 0 to 10 c) 0 to 14 d) 7 to 14

Ans: c) 0 to 14

36. The PH of commonly used Toothpaste is

a) Acidic b) Basic c) Neutral d) None of these

Ans: b) basic

37. Vinegar is used in pickling as it,

a) Is an acid b) Prevents growth of microbes

c) Prevents drying of pickles d) Increases taste

Ans: b) Prevents growth of microbes

38. The PH of neutral solution is

a) 14 b) 7 c) 10 d)12

Ans: b) 7

39. Sodium chloride is

a) Acidic salt b) Basic salt c) Neutral salt d) None of these

Ans: c) Neutral salt

40. An ant's sting can be treated with,

a) Methanoic acid b) Formic acid c) Baking soda d) caustic soda

Ans: c) baking soda

41. A teacher gave two test tubes to the students. One containing water and the other Containing sodium hydroxide. She asked them to identify the test tube containing sodium hydroxide solution. Which one of the following can be used for identification?

a) Blue litmus b) Red litmus c) sodium carbonate solution d) dilute HCL solution

Ans: b) Red litmus

42. The acid present in the vinegar is,

a) Citric acid b) Tartaric acid c) Ascorbic acid d) Acetic acid

Ans: d) acetic acid

43. Litmus solution is a natural dye. It is obtained from

a) Lichen b) methyl orange c) fungus d) microorganisms

Ans: a) lichen

44. Which acid is present in orange?

a) Lactic acid b) Citric acid c) Methanoic acid d) oxalic acid

Ans: b) citric acid

45. The correct way of making a solution of acid in water is to,

a) Add water to acid b) Add acid to water

c) Mix acid and water simultaneously d) Add water to acid in a shallow container

Ans: b) Add acid to water

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2. METALS AND NON METALS

1. The ability of metals to be drawn in to wires is known as

A) Ductility B)Malleability C)Sonority D)Conductivity

Answer :(A)

2. Due to its semi conductor properties the non metal used in computers, TV etc

A) Carbon B) Silicon C) Bromine D) Fullerene

Answer :(B)

3. Which of the following metal exist in their native form in nature?

A) Cu B)Au C) Zn D) Fe

Answer :(B)

4. Which of the following metals are refined by electrolysis?

A) Al B) Na C) Cu D) K

Answer :(C)

5. The element A is very soft in nature and can be cut with knife. This is very reactive to air and cannot be kept open. It reacts vigorously with water. Identify the element from the following.

A) Mg B) Na C) P D) Ca

Answer :(B)

6. Alloys are the homogeneous mixture of metals with a non metal. Which among the following alloys contain non-metals as one of its constituents?

A) Brass B) Bronze C) Amalgam D) Steel

Answer :(D)

7. Generally non-metals are not conductors of electricity. Which of the following is a good conductor of electricity?

A) Diamond B) Graphite C) Fullerene D) Sulphur

Answer:(B)

8. Which of the following is iron ore

A)Cinnabar B)Calamine C) Hematite D) Rock salt

Answer :(C)

9. The metal which can be extracted from bauxite ore is

A) Na B) Mn C) Al D) Hg

Answer:(C)

10. In stainless steel alloy, iron metal is mixed with

A)Cu and Cr B) Cr and Ni C) Cr and Sn D) Cu and Ni

Answer:(B)

11. Rock salt is an ore of one of the following metal. This metal is

A) Mn B) Na C) Cu D) Cu

Answer:(B)

12. Which one of the following pair will give Displacement Reaction?

A) $AgNo_3$ solution and Copper metal B) $FeSo_4$ solution and Copper metal

C) $CuSo_4$solution and silver metal D) NaCl solution and Copper metal

Answer:(A)

13. Which of the following non- metal is lustrous?

A) Sulphur B) Oxygen C) Nitrogen D) Iodine

Answer :(D)

14. Examples of amphoteric oxide is

A) Na_2O B) K_2O C) Al_2O3 D) MgO

Answer :(C)

15. The atomic number of element 'X' is 12 which inert gas is nearest to 'X'

A) He B) Ar C) Ne D) Kr

Answer :(C)

16. The process in which Carbonate ore is heated strongly in absence of air to convert it in to metal oxide is called

A) Roasting B) Reduction C) Calcination D) Melting

Answer :(C)

17. Oxides of moderately reactive metals like Zinc, Iron, Nickel, Tin,Copper etc reduced by using

A) Sodium as reducing agent B) Carbon as reducing agent

C) Aluminum as reducing agent D) Calcium as reducing agent.

Answer :(B)

18. Galvanization is method of protecting iron from rusting by coating a thin layer of

A) Gallium B) Aluminium C) Zinc D) Silver

Answer :(C)

19. In the extraction of Copper, the flux used is

A) CaO B) SiO_2 C) FeO D) $FeSiO_2$

Answer :(B)

20. In electrolytic refining of Copper, the electrolyte used is

A) CuO B) $Cu(OH)_2$ C) Acidified $CuSO_4$ (aq) D) $CuSO_4$(s)

Answer:(C)

21.Which one of the following metal do not react with cold as well as hot water

A) Na B) Ca C) Mg D) Fe

Answer:(D)

22. Generally metals are solid in nature. Which one of the following metals is in liquid state at room temperature?

A) Na B) Fe C) Cr D) Hg.

Answer :(D)

23. Which of the following can undergo a chemical reaction?

A) $MgSO_4+Fe$ B) $ZnSO_4+Fe$ C) $MgSO_4+Pb$ D) $CuSO_4+Fe$

Answer:(D)

24. An element reacts with oxygen to give compound with high melting point. This compound is also soluble in water. This element likely to be

A) Calcium B) Carbon C) Silicon D) iron

Answer:(A)

25. Food cans are coated with tin and not with Zinc because

A) Zinc is costlier than tin B) Zinc has a higher melting point

C) Zinc is more reactive than tin D) Zinc is reactive than tin

Answer:(C)

26. Calcination is

A) Heating the ore in a limited supply of air B) Heating the ore in access of air

C) Cooling the ore D) none of these

Answer :(A)

27. What happens when calcium is treated with water?

A) It does not react with water. Bubbles of hydrogen gas formed stick to the surface of calcium

B) It reacts less violently with water

C) It does not react with water, it reacts violently with water

D) It reacts violently with water..Bubbles of hydrogen gas formed stick to the surface of calcium

Answer :(D)

28. Which of the following property is generally not shown by the metal?

A) Electrical conduction B) Sonorous in nature C) dullness D) Ductility

Answer:(C)

29. The non-metal that is liquid in room temperature

A) Mercury B) Bromine C) Carbon D) Helium

Answer :(B)

30. The sulphide ore are converted in to oxides by heating strongly in the presence of access air. This process known as

A) Roasting B) Smelting C) Calcination D) Refining

Answer:(A)

31. In electrolytic refining, the cathod is made up of

A) Impure metal B) Pure metal C) Alloy D) metallic salt

Answer:(B)

32. Silver articles become black on prolonged exposure to air. This is due to the formation of

A) Ag_3N B) Ag_2S C) AgO D) Ag3N and Ag_2S

Answer:(B)

33. If copper is kept opening air, it slowly loses its shining brown surface and gains a green coating. It is due to the formation of

A) $CuSO_4$ B) $CuCo_3$ C) $Cu(NO_3)_2$ D) CuO

Answer:(B)

34. An alloy is

A) An element B) A compound

C) A homogeneous mixture D) heterogeneous mixture

Answer:(C)

35. Which among the given statement Is incorrect for magnesium metal.

A) It burns in oxygen with dazzling flame

B) It reacts with cold water to form magnesium oxide and evolves hydrogen gas

C) It reacts with hot water to form magnesium oxide and evolves hydrogen gas

D) It reacts with hot water to form magnesium oxide and evolves hydrogen gas

Answer:(B)

36. Which of the given metal is present in the mud during the electrolytic refining of copper?

A) Sodium B) Aluminium C) Gold D) Iron

Answer:(D)

37. The second most abundant metal in the earth crust is

A) Oxygen B) Aluminium C) Silicon D) Iron

Answer:(D)

38. An alloy of Zinc and Cu is dissolved in dil HCl.Hydrogen gas evolved in this evolution of gas

A) Only Zinc reacts with dil HCl. B) Only Cu reacts with dil HCl

C) Both Zinc and Copper react with dil HCl. D) Only Copper reacts with water

Answer:(A)

39. A student placed an iron nail in copper sulphate solution. He observed the reddish brown coating on the iron nail which is

A) Soft and dull B) hard and fading

C) Smooth and shining D) Rough and granular

Answer:(D)

40. An electrolytic cell consists of

(a) Positively charged cathode

(b) Negatively charged cathode

(c) Positively charged anode

(d) Negatively charged cathode.

A) (a) and (b)

B) (c) and (d)

C) (a) and (c)

D) (b) and (d)

Answer:(B)

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3. CARBON AND ITS COMPOUNDS

1. The property of self – linkage among identical atoms to form long chain compounds is known as?

a) Catenation. b) Isomerisation's c) Superposition. d) Halogenations.

Ans:a) Catenation.

2. Which of the following belongs to homologous series of alkynes?

a) C_3H_8 b) C_5H_8 c)C_3H_6 d) C_6H_6.

Ans: b) C_5H_8

3. The hydrocarbon that undergoes addition reaction among the follow is

a) C_2H_6 b) C_3H_8 c) CH_4 d) C_3H_6

ans: d) C_3H_6

4. An example for saturated hydrocarbon is

a) C_3H_6 b) C_5H_{12} c) C_2H_2 d) C_2H_4

ans: b) C_5H_{12}

5. The functional groups present in propanol and propanal respectively are

a) - OH and - CHO. b)- OH and - COOH. c)- CHO and - COOH. d)-CHO and - CO.

Ans: a) - OH and - CHO.

6. Identify the correct electron dot structure of nitrogen molecule in the following.

(a) :N⋮N: (b) :N::N: (c) :N⋮N: (d) :N⋮⋮N:

Ans: (d) :N⋮⋮N:

7. The name and the molecular formula of the saturated hydrocarbon having general formula C_nH_{2n} and containing 3 Carbon atoms

a) Propane C_3H_8 b) Cyclopropane C_3H_6

c) propyne C_3H_4 d) propeneC_3H_6

Ans: b) Cyclopropane C_3H_6

8. Which of the following statements about graphite and diamond is true?

a) They have the same crystal structure. b) They have the same degree of hardness
c) They have the same electrical conductivity. d) They can undergo the same chemical reactions.

Ans: d) They can undergo the same chemical reactions.

9. The number of covalent bonds in C_5H_{12} is

a) 16. b) 18. c) 12. d) 15.

Ans: a) 16.

10. The unsaturated oil on treating with hydrogen in the presence of palladium or nickel catalyst form fats, this is an example of

a) Addition reaction. b) Substitution reaction.

c) Displacement reaction. d) Oxidation reaction.

Ans: a) Addition reaction.

11. Which of the given has double bond?

a) Hydrogen molecule. b) Oxygen molecule.
c) Nitrogen molecule d) Methane molecule

ans: b) Oxygen molecule.

12. The Soap molecule has a

a) Hydrophilic Head & a hydrophobic tail. b) Hydrophobic Head & a Hydrophilic tail.

c) Hydrophobic Head & a hydrophobic tail. d) Hydrophilic Head & a Hydrophilic tail.

Ans: a) Hydrophilic Head & a hydrophobic tail.

13. Which of the following cannot exhibit isomerism?

a) C_4H_{10} b) C_5H_{12} c) C_2H_6 d) C_6H_{14}

ans: c) C_2H_6

14. Two hydrocarbons 'A' and 'B' have same molecular formula C_5H_{10}. By using this statement identify the correct option.

a) 'A' is a cyclic compound& 'B' is an open chain compound both has double bond.

b) 'A' is a cyclic compound with single bond & 'B' is an open chain compound with double bond.

c) 'A' is a cyclic compound with double bond & 'B' is an open chain compound with single bond.

d) 'A' is a cyclic compound & 'B' is an open chain compound both have single bond.

Ans: b) 'A' is a cyclic compound with single bond & 'B' is an open chain compound with double bond.

15. While cooking, if the bottom of the utensil is getting blackened on the outside, it means that:

a) The food is not cooked completely. **b**) The fuel is not burning completely.
c) The fuel is wet. d) The fuel is burning completely.

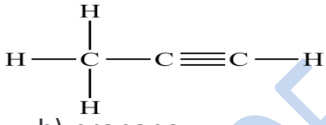
Ans: **b**) The fuel is not burning completely.

16. Which of the following compound on repeated chlorination forms chloroform and carbon tetra chloride?

a) C_2H_6 b) C_3H_8 c) CH_4 d) C_3H_6

ans: c) CH_4

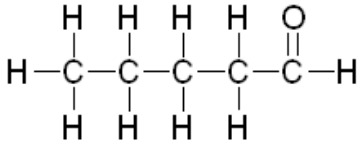
17. Which of the following is a correct name of this compound?



a) propene b) propane c) butyne d) propyne

ans: d) propyne

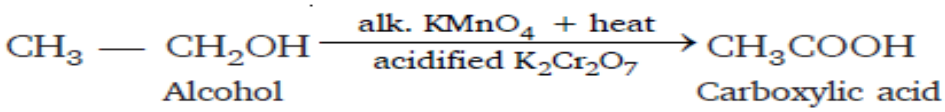
18. Identify the correct name of the following compound?



a) pentanol b) pentanal c) pentanoic acid d) butanal

ans: b) pentanal

19. In the following reaction, alkaline KMnO4 act as:



a) Oxidising agent b) Reducing agent c) Catalyst d) dehydrating agent

ans: a) Oxidising agent

20. Why soap does not work well with hard water containing Ca^{+2} or Mg^{+2} ions. Because,

a) It react with Ca^{+2} or Mg^{+2} to form a solution

b) It reacts with oily dirt to form a white precipitate.

c) It reacts with Ca^{+2} or Mg^{+2} to form a white precipitate.

d) It reacts with Ca^{+2} or Mg^{+2} to form a Colloidal solution.

Ans: c) It reacts with Ca^{+2} or Mg^{+2} to form a white precipitate.

21. When ethanoic acid is treated with $NaHCO_3$ the gas evolved is

(a) H_2 (b) CO_2 (c) CH_4 (d) CO

Ans: (b) CO_2

22. Ethanol on complete oxidation gives

(a) acetic acid/ethanoic acid (b) CO_2 and water

(c) ethanol (d) acetone/ethanone

Ans: (b) CO_2 and water

23. Name the functional group present in CH_3COCH_3.

(a) Alcohol (b) Carboxylic acid (c) Ketone (d) Aldehyde

Ans: (c) Ketone

24. Addition reactions are undergone by

(a) Saturated hydrocarbons (alkanes) (b) Only alkenes

(c) Only alkynes (d) both alkenes and alkynes

Ans: (d) Both alkenes and alkynes

25. A hydrocarbon has four carbon atoms. Give its molecular formula if it is an alkene.

(a) C_4H_{10} (b)C_4H_8(C) C_4H_6 (d) C_4H_4

Ans: (b) C_4H_8

26. The first member of the alkynes homologous series is

(a) propyne (b) ethyne (c) methane (d) ethene

Ans: (b) ethyne

27. While cooking, if the bottom of the vessel is getting blackened on the outside, it means that:

a) The food is not cooked completely b) The fuel is not burning completely

c) The fuel is wet d) The fuel is burning completely

ans: b) The fuel is not burning completely

28. Which of the following is the molecular formula of cyclobutane?

a) C_4H_{10} b) C_4H_6 c) C_4H_8 d) C_4H_4

ans: c) C_4H_8

29. Which of the followings is the major constituent of the liquefied petroleum gas?

a) Methane b) Ethane c) Propane d) Butane

ans: d) Butane

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

A. Addition reaction B. Substitution reaction

C. Displacement reaction D. Oxidation reaction

Ans: A. Addition reaction

31. In which of the given compounds -OH is the functional group?

A. Butanone B. Butanol C. Butanoic D. Butanal

Ans: B. Butanol

32. Complete combustion of a hydrocarbon gives

A. $CO+H_2O$ B. CO_2+H_2O C. $CO+H_2$ D. CO_2+H_2

Ans: B. CO_2+H_2O

33. Which is not correct for isomers of a compound?

A. They differ in physical properties B. They differ in chemical properties

C. They have same molecular formula D. They have same structural formula

Ans:D. they have same structural formula

34. The name of the compound, $CH_3 — CH_2 — CHO$ is:

A. Propanal B. Propanone C. Ethanol D. Ethanal

Ans: A. Propanal

35. How many electrons are there in the outermost shell of carbon?

A. 1 B. 2 C. 3 D. **4**

Ans: D. **4**

36. Which of the given has a triple bond?

A. Hydrogen molecule B. Oxygen molecule

C. Nitrogen molecule D. Ammonia molecule

Ans: C. Nitrogen molecule

37. How many single bonds are present in methane?

A. Four B. Five C. Six D. Three

Ans: A. Four

38. Two neighbors of homologous series differ by

A. –CH B. $-CH_2$ C. $-CH_3$ D. $-CH_4$

Ans: B. $-CH_2$

39. Which one of the given is an unsaturated hydrocarbon?

A. Acetylene B. Butane C. Propane D. Decane

Ans: A. Acetylene

40. Chlorine reacts with saturated hydrocarbons at room temperature in the

(a) absence of sunlight (b) presence of sunlight

(c) presence of water (d) presence of hydrochloric acid

Ans: (b) presence of sunlight

****

4. PERIODIC CLASSIFICATION OF ELEMENTS

1. The number of groups and periods in the modern periodic and table respectively, are_____

A.7 and 9 B.18 and 7 C.7 and 18 D.9 and 7

Ans: B. 18 and 7

2. The electronic configuration of element X is 2,8,8,1 and the electronic configuration of element Y is 2, 8, 7. Then the type of bond formed between these twoelements is_____

A.Covalent bond B.Hydrogen bond C.Metallic bond D.Ionic bond

Ans: D.Ionic bond

3. The atomic numbers of elements A,B,C and D are 3,9,4 and 8 respectively. Elementshaving metallic nature among these are_____

A.B and D B.A and C C.A and C D.B and C

Ans: C. A and C

4. In modern periodic table, as we move from left to right along the period, the atomic size ofthe elements_____

A.Increases B.Does not change

C.Decreases D.First increases and then decreases

Ans: C. Decreases

5. In modern periodic table,as we move from left to right the metallic property of theelements_____

A.Increases B.Does not change

C.Decreases D.First increases and then decreases

Ans: C. Decreases

6. The scientist who proposed the modern periodic table_____

A.Newland B.Henry Moseley C.Dobereiner D.Mendeleev

Ans: B.Henry Moseley

7. The number of valence electrons present in nitrogen atom_____

A.5 B.7 C.6 D.8

Ans: A. 5

8. Element X forms a chloride with the formula XCl2, which is a solid with a high melting point. X would most likely be in the same group of the periodic table as _____

A. Na B. Mg C. Al D. Si

Ans.B. Mg

9. The law of octaves was found to be applicable to elements _____

A.Oxygen B.Calcium C.Cobalt D.Potassium

Ans: B. Calcium

10. According to Mendeleev's Periodic law, the elements were arranged in the periodic table in the order of_____

A. Increasing atomic number B.Decreasing atomic number

C.Increasing atomic masses D.Decreasing atomic masses

Ans: C. Increasing atomic masses

11. In Mendeleev's periodic Table, gaps were left for the elements to be discovered later. Which of the following elements found a place in the periodic table later?

A. Germanium B. Chloride C. Oxygen D. Silicon

Ans: **A. Germanium**

12. Where would you locate the element with electronic configuration 2, 8 in the modern periodic table?

A.Group 8 B. Group 2 C. Group 18 D. Group 10

Ans: C. Group 18

13. An element which is an essential constituent of all organic compounds belong to _____

A.Group 1 B. Group 14 C. Group 15 D. Group 16

Ans: B. Group 14

14. Which of the following is the outermost shell for elements of period 2?

A.K shell B. L shell C. M shell D. N shell

Ans: B. L shell

15. Which one of the following elements exhibit maximum number of valence electrons?

A.Na B. Al C.Si D. P

Ans: D. P

16. Which among the following elements has the largest atomic radii?

A.Na B. Mg C. K D.Ca

Ans: C. K

17. Which one of the following elements would lose an electron easily?

A.Mg B. Na C. K D. Ca

Ans:C. K

18. Which of the following elements does not lose an electron easily?

A.Na B. F C. Mg D. Al

Ans: B. F

19. What type of oxide would Eka-aluminium form?

A.EO_3 B. E_3O_2 C. E_2O_3 D. EO

Ans:C. E_2O_3

20. Three elements B, Si and Ge are _____

A. Metals B. Non- metals C. Metalloids D. Metals, non-metals and metalloids

Ans: C. Metalloids

21. On moving from left to right in a short period, the valency of elements with respect to hydrogen _____

A. increases B. decreases

C. remains unchanged D. first increases from 1 to 4 then decreases from 4 to 1.

Ans: D. first increases from 1 to 4 then decreases from 4 to 1

22. Modern periodic table is based on _____

A. atomic weight B. equivalent weight

C. molecular weight D. atomic number

Ans: D. atomic number

23. Which of the following statements is not a correct statement about the trends when going from left to right across the periods of periodic table_____?

A. The elements become less metallic in nature.
B. The number of valence electrons increases.
C. The atoms lose their electrons more easily.
D. The oxides become more acidic.

Ans: C. The atoms lose their electrons more easily.

(On moving from left to right across the periods of the periodic table, the non-metallic Character increases. Hence, the tendency to lose electrons decreases.)

24. Element X forms a chloride with the formula XCl2, which is a solid with a high melting point. X would most likely be in the same group of the Periodic Table as _____

A.Na B. Mg C. Al D. Si

Ans: B.X would most likely be in the same group of the Periodic Table as magnesium (Mg).

25. An atom has electronic configuration 2, 8, 7.The atomic number of this element is____

A.17 B.18 C.19 D.20

Ans: A.17

26. Mendeleev used these as a criteria in his periodic table _____

A. Hydrides and Chlorides B. Chlorides and Oxides
C. Hydrides and Oxides D. Hydrides, chlorides and oxides

Ans: C. Hydrides and Oxides

27. Identify the formula that does not represent the triads_____

A. (A+C)/2 = B B. (A - C) =2B C. 2B - C =A D. 2B -A = C

Ans: B. (A - C) =2B

28. Which of the following is the correct increasing order of the atomic radii of the elements oxygen, fluorine and nitrogen?

A. O < F < N B. N < F < O C. O < N < F D. F < O < N

Ans: D. F < O < N

29. The elements A, B and C belong to group 2, 14 and 16 respectively, of the periodic table. Which of the elements will form covalent bonds?

A. A andB B. B and C C. C and A D.A

Ans:B. B and C

30. An element X belongs to the 3rd period and 1st group of the periodic table. What is the number of valence electrons in its atom?

A. 1 B. 3 C. 6 D. 8

Ans: A. 1

31. An element M is in group 13th of the periodic table, the formula of its oxideis _____

A. MO B. M_2O_3 C. M_3O_2 D. MO_2

Ans: B. M_2O_3

32. Observe the table and identify the formula of oxide of lithium _____

A.LiO B. Li_2O C. LiO_2 D. Li_2O_3

Ans: A.LiO

33. In the second period the most metallic element is _____

A. Be - as it has more protons B. Li - it is with least nuclear charge

C. F- as it is most electro negative D. Ne – as it has completely filled shell

Ans: B. Li - it is with least nuclear charge

34. Electronic configuration of carbon is

A. 2, 2 B. 2, 3 C. 2, 4 D. 2, 5

Ans: C. 2, 4

35. Number of valence electrons found in the element with atomic number 19 is

A. 1 B. 2 C 3 D. 4

Ans: A. 1

36. A, B, C,D, E are the elements belongs to group 1,2,13, 14, 16 respectively. Most electronegative element in the group is

A. A B. D C. B D. E

Ans: D. E

37. Correct arrangement of the elements according to increasing order of their nuclear charge is

A. Li > Be > B > C > N > O > F B. Li < B < Be < C < N < O < F

C. Li > B > Be > C > O > N > F D. Li < Be < B < C < N < O < F

Ans: D. Li < Be < B < C < N < O < F

38. Identify the element that has the tendency to lose the electrons most easily.

A. Ca B. Na C. K D. Mg

Ans: C. K

39. A metal 'M' is in the 13th group of the Periodic Table. Its oxide formula and valency are __

A. MO , 2 B. M_2O , 2 C. M_2O_3 , 3 D. M_3O_2 , 3

Ans: C. M_2O_3 , 3

40. Consider the elements - 20Ca, 8O, 18Ar, 16S, 4Be, 2Hewhich of the above elements would you expect to be in group 16 of the Periodic Table?

A. $_{20}$Ca and $_{16}$S B. $_{20}$Ca and $_{8}$O C. $_{18}$Ar and $_{16}$S D. $_{8}$O and $_{16}$S

Ans: D. $_{8}$O and $_{16}$S

41. In the modern periodic table, which element are completely filled with electrons?

A. Be , He, Ne B. He , Ar, K C.He, Ne, Ar D. He. Ni, Ar,

Ans: C.He, Ne, Ar

42. Identify the element E, with 2 shells and forms a magnesium compound with a formula MgE

A. Cl B. B C. S D. O

Ans: D. O

43. In the modern periodic table, Eka aluminium can placed in the group _____

A. 2 B. 3 C. 13 D.14

Ans: C. 13

44. The element with three shells, having four electrons in its valence shell is _____

A.Carbon B. Silicon C. Sulphur D. Phosphorous

Ans: B. Silicon

45. The element with two shells, loses three electrons from its valence shell is _____

A.Carbon B.Boron C.Beryllium D Aluminium

Ans: B. Boron

46. The element that has electrons twice as many electrons in its second shell as in its first shell

A.Carbon B.Beryllium C.Boron D.Nitrogen

Ans: A. Carbon

47. In the given table, Formula of the compound formed between B and D is _____

1	2	15	16	17
A			B	C
	D			E
F		H		I

A. BD B. B_2D C. BD_2 D. DB

Ans: D. DB

48. In the above table, most non-metallic element is _____

A. A B. C C. I D. F

Ans: B. C

49. In the above table, most metallic element _____

A.A B. C C.I D. F

Ans: D. F

50. Maximum number of elements found in the second and third periods is _____

A. 2 and 8 B. 8 and 18 C. 8 and 8 D. 18 and 18

Ans: C. 8 and 8

51. (A+C)/2 = B can be related to the law _____

A. Mendeléev's periodic law B.Döbereiner's law of triads

C. Newlands' Law of Octaves D. Modern periodic law

Ans: B. Döbereiner's law of triads

52. In Newlands' periodic table the elements kept in the same slot are _____

A. Co and Ni B. Cu and Ni C. Ni and Ce D. Co and Cr

Ans: A. Co and Ni

****

5. LIFE PROCESSES

1. A blood vessel which pumps the blood from the heart to the entire body:

A. artery B. capillary C. Vein D. Haemoglobin

Answer: A. artery

2. Name a circulatory fluid in the human body other than blood.

A. Platelets B. RBC C. Lymph D. Plasma

Answer: C. Lymph

3. Single circulation, i.e., blood flows through the heart only once during one cycle of passage through the body, is exhibited by which of the following:

A. hyla, rana, draco B. whale, dolphin, turtle

C. labeo, chameleon, salamander D. hippocampus, exocoetus, anabas

Answer: D. hippocampus, exocoetus, anabas

4. Haemoglobin levels in the blood samples of two persons A and B are found to be 9 gm/dL and 13 gm/dL respectively. Which statement is true with respect to the amount of oxygen supply in their body?

A. More in person B than in person A

B. More in person A than in person B

C. Equal in person A and person B

D. No relation between oxygen supply and the level of haemoglobin.

Answer: A. More in person B than in person A

5. Blood consist of what fluid medium?

A. Lymph B. Platelets C. Plasma D. All of these

Answer: C. Plasma

6. One cell-thick vessels are called

A. Arteries B. Veins C. Capillaries D. Pulmonary artery

Answer: C. Capillaries

7. The only artery which carries deoxygenated blood is:

A. Pulmonary artery B. Renal artery C. Hepatic artery D. Coronary artery

Answer: A. Pulmonary artery

8. How many chambers does a frog's heart have? How many chambers does a frog's heart have?

A. 1 B. 2 C. 3 D. 4

Answer: C. 3

9. Oxygenated blood reaches heart by

A. Pulmonary artery B. Pulmonary vein C. Aorta D. Vena cava

Answer: B. Pulmonary vein

10. Which of the following substances is transported by blood plasma?

A. Food B. Potassium C. Alcohol D. All of these

Answer: D. All of these

11. How many chambers are present in human heart?

A. One B. Two C. Three D. Four

Answer: D. Four

12. In humans, right auricle receives _____ blood from_____

A. Oxygenated, aorta B. Deoxygenated, vena cava

C. Oxygenated, vena cava D. Deoxygenated, aorta

Answer: B. Deoxygenated, vena cava

13. Veins have valves to

A. Prevent back flow of blood B. Prevent the collapse of the vein

C. Maintain its position in the body D. None of these

Answer: A. Prevent back flow of blood

14. The colour of blood plasma is:

A. Red B. Pale yellow C. Yellowish green D. Pink

Answer: B. Pale yellow

15. Where does the maximum exchange of material between blood and surrounding cells occur?

A. Heart B. Veins C. Arteries D. Capillaries

Answer: D. Capillaries

16. The only reptile having 4- chambered heart is:

A. Snake B. Turtle C. Lizard D. Crocodile

Answer: D. Crocodile

17. Superior and inferior vena cava respectively carries blood from

A. Upper and lower parts of body B. Lower and upper parts of body

C. Upper and lateral parts of the body D. Lateral and lower parts of the body

Answer: A. Upper and lower parts of body

18. The chamber of heart that receives deoxygenated blood from the tissues of body is

A. Left atrium B. Right atrium C. Left vertical D. Right ventricle.

Ans: B. Right atrium

19. The xylem in plants are responsible for

A. transport of water B. transport of food

C. transport of amino acids D. Transport of oxygen

Answer: A. transport of water

20. Significant role of stomata in transportation is to:

A. Create upward pressure B. absorb carbon dioxide

B. C. release oxygen D. perform transpiration continuously

Answer: A. Create upward pressure

21. It helps in translocation of food in plants.

A. Xylem B. Palisade cells C. Root hairs D. Phloem

Answer: d

22. Which plant tissue transports water and minerals from the roots to the leaf?

A. Xylem B. Phloem C. Parenchyma D. Collenchyma

Answer: A. Xylem

23. The movement of food in phloem is called:

A. transpiration B. translocation C. respiration D. evaporation

Answer: B. translocation

24. Name the tube which connects the kidneys to the urinary bladder.

A. Urethra B. Nephron C. Tubule D. Ureter

Answer: D. Ureter

25. Which part of nephron allows the selective reabsorption of useful substances like glucose, amino acids, salts and water into the blood capillaries?

A. Tubule B. Glomerulus C. Bowman's capsule D. Ureter

Answer: A. Tubule

26. Where is the dirty blood in our body filtered?

A. Heart B. Lungs C. Ureter D. Kidneys

Answer: D. Kidneys

27. The procedure used for cleaning the blood of a person by separating urea from it is called:

A. osmosis B. filtration C. dialysis D. double circulation

Answer: C. dialysis

28. Urea formation takes place in

A. liver B. kidney C. lungs D. skin

Answer: A. liver

29. Identify the correct path of urine in the human body.

A. Kidney → urinary bladder → urethra → ureter

B. Urinary bladder → ureter → kidney → urethra

C. Kidney → ureter → urethra → urinary bladder

D. Kidney → ureter → urinary bladder → urethra

Answer: D. Kidney → ureter → urinary bladder → urethra

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

A. nutrition B. respiration C. excretion D. transportation.

Answer: C. excretion

31. The blood pressure is measured by the instrument called,

a) Manometer b) Barometer c) sphygmomanometer d) Photometer

Ans: c) Sphygmomanometer

32. Blood clotting is done by

a) RBC b) WBC c) platelets d) plasma

Ans: c) platelets

33. Normal blood pressure in human beings is,

a) 160/80 mmHg b) 120/80mmHg c) 120/72mmHg d) 80/120mmHg

Ans: b) 120/80mmHg

34. Name the largest artery of the body

a) pulmonary artery b) pulmonary vein c) aorta d) renal artery

Ans: c) aorta

35. Roots of the plant absorb water from the soil through the process of

a) diffusion b) transpiration c) osmosis d) transportation

Ans: a) diffusion

36. What is the advantage of different chambers present in human heart?

a) Prevent blood clotting

b) To mix the oxygen rich blood with deoxygenated blood
c) To get highly deoxygenated blood
d) To prevent oxygenated blood mixing with deoxygenated blood

Ans: d) to prevent oxygenated blood mixing with deoxygenated blood

37. Vena cava carries,

a) Oxygenated blood from lungs to heart
b) Deoxygenated blood from body parts to the heart
c) Oxygenated blood from heart to body parts
d) Deoxygenated blood from heart to lungs

Ans: b) Deoxygenated blood from body parts to heart

38. The opening and closing of stomatal pore depends on

a) oxygen b) water in guard cells c) carbon di oxide in stomata d) temperature

Ans: d) temperature

39. The blood leaving the tissues is rich in,

a) haemoglobin b) carbon di oxide c) water d) oxygen

ans: b) carbon di oxide

40. What prevents backflow of blood during contraction in heart?

a) Valves in heart
b) Thick muscular walls of ventricles
c) Thin walls of atria
d) All

Ans: a) Valves in heart

****

6. CONTROL AND COORDINATION

1. Any change in the environment to which an organism responds is called

A. stimulus B. coordination C. response D. hormone

Answer: A. stimulus

2. The Brain is responsible for

A. thinking
B. regulating the heart blood
C. balancing the body
D. All of the above

Answer: D. All of the above

3. The structural and functional unit of human nervous system is

A. neuron B. nephron C. hepatic cell D. cell

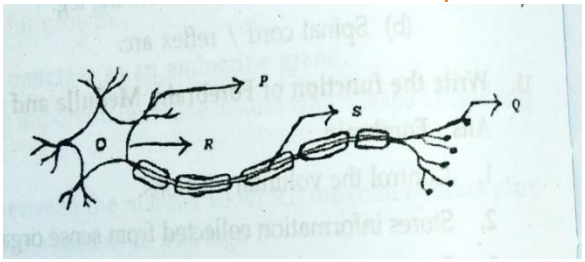
Answer: A. neuron

4. A microscopic gap between a pair of adjacent neurons is called

A. impulse B. dendrite C. axon D. synapse

Answer: D. synapse

5. The correct path of the movement of nerve impulse in the following diagram is



A. Q → S → R → P
B. P → Q → R → S
C. S → R → Q → P
D. P → R → S → Q

Answer: B. P → Q → R → S

6. Which nerves transmit impulses from the central nervous system towards muscle cells?

A. Sensory nerves B. Motor nerves C. Relay nerves D. Cranial nerves

Answer: B. Motor nerves

7. The main coordinating centre in the human body is

A. spinal cord B. heart C. brain D. kidney

Answer: C. brain

8. The centre of reflex action is

A. brain B. spinal cord C. cerebrum D. cerebellum

Answer: B. spinal cord

9. ------- neuron carries the message from receptors to the spinal cord

A. Sensory nerves B. Motor nerves C. Relay nerves D. Cranial nerves

Answer: A. Sensory nerves

10. Receptors are located in ----------organs.

A. inner B. outer C. sense D. muscular

Answer:C. sense

11. Sudden response of a body to the stimulus is called as

A. sensation B. reaction C. reflex action D. stimulation

Answer:C. reflex action

12. Main function of cerebrum is

A. thinking B. hearing C. memory D. balancing

Answer: A. thinking

13. Posture and balance of the body is controlled by

A. Pons B. Medulla oblongata C. Cerebellum D. Cerebrum

Answer: C. Cerebellum

14. Breathing is controlled by which part of the brain?

A. Cerebrum B. Cerebellum C. Hypothalamus D. Medulla oblongata

Answer: D. Medulla oblongata

15. Largest part of the brain is ……

A. cerebrum B. cerebellum C. medulla D. Pons

Answer: A. cerebrum

16. The nervous system uses …… impulses to transmit messages.

A. muscular B. electrical C. hormonal D. chemical

Answer: B. electrical

17. Blood pressure, salivation and vomiting are controlled by

A. cerebrum B. medulla C. cerebellum D. Pons

Answer: B. medulla

18. Which of the following is a plant hormone?

A. Insulin B. Adrenaline C. Thyroxine D. Cytokinin

Answer:D. Cytokinin

19. Roots of the plant grow towards soil; this response towards earth is called

A. Auto tropism B. Chemotropism C. Geotropism D. Hydrotropism

Answer:C. Geotropism

20. A response that does not happen in plants due to their growth is

A. Bending of shoot towards light. B. Penetration of roots in deep soil.

C. Folding of leaves when touched. D. Climbing tendrils of a crisper.

Answer:C. Folding of leaves when touched.

21. Which plant hormone promotes dormancy in seeds and buds?

A. Auxin B. Gibberellin C. Cytokinin D. Abscisic acid

Answer: D. Abscisic acid

22. Roots of plants are:

A. positively geotropic B. negatively geotropic

C. positively phototropic D. None of these

Answer: A. positively geotropic

23. Response of plant roots towards water is called:

A. Chemotropism B. Phototropism C. Hydrotropism D. Geotropism

Answer: C. Hydrotropism

24. Movement of sunflower in accordance with the path of Sun is due to

A. Chemotropism B. Geotropism C. Phototropism D. Hydrotropism

Answer: C. Phototropism

25. Which plant hormone promotes cell division?

A. Auxin B. Gibberellin C. Cytokinin D. Abscisic acid

Answer:C. Cytokinin

26. The main function of abscisic acid in plants is

A. to promote cell division. B. to inhibit growth.

C. to promote growth of stem. D. to increase the length of cells.

Answer:B. to inhibit growth.

27. Fall of mature leaves and fruits from plants is triggered by which of the following substance?

A. Auxin B. Cytokinin C. Gibberellin D. Abscisic acid

Answer: D. Abscisic acid

28. A part of the body which responds to the instructions sent from nervous system is called

A. receptor B. effector C. nerves D. muscles

Answer: B. effector

29. Identify the correct statement among the following with respect to the plant hormones.

A. Cytokinin promotes wilting of leaves B. Auxin inhibits stem elongation

C. Abscisic acid inhibits growth of plants D. Gibberllin promotes falling of leaves

Answer: C. Abscisic acid inhibits growth of plants

30. The growth of pollen tubes towards ovules is the example of:

A. hydrotropism B. geotropism C. phototropism D. chemotropism

Answer:D. Chemotropism

31. Which of the following acts as both endocrine and exocrine gland?

A. Pancreas B. Thyroid C. Adrenal D. Liver

Answer: A. Pancreas

32. Identify which of the following statements about thyroxin is incorrect?

A. Thyroid gland requires iodine to synthesize thyroxin.

B. Thyroxin is also called thyroid hormone.

C. It regulates protein, carbohydrates and fat metabolism in the body.

D. Iron is essential for the synthesis of thyroxin.

Answer: D. Iron is essential for the synthesis of thyroxin.

33. Which gland secretes the growth hormone?

A. Pituitary gland B. Thyroid C. Hypothalamus D. Adrenal

Answer: A. Pituitary gland

34. The secretion of which hormone leads to physical changes in the body when you are 10-12

Years of age?

A. Oestrogen from testes and testosterone from ovary.
B. Estrogen from adrenal gland and testosterone from pituitary gland.
C. Testosterone from testes and estrogen from ovary.
D. Testosterone from thyroid gland and estrogen from pituitary gland.

Answer:C. Testosterone from testes and estrogen from ovary.

35. A diabetic patient suffers from deficiency of which hormone?

A. Thyroxine B. Testosterone C. Oestrogen D. Insulin

Answer: D. Insulin

36. Which of the following endocrine glands does not exist in pairs?

A. Testes B. Adrenal C. Pituitary D. Ovary

Answer: C. Pituitary

37. Deficiency of …… hormone in childhood leads to dwarfism in humans.

A. adrenaline B. thyroxine C. growth D. testosterone

Answer: C. growth

38. In reflex action, the reflex arc is formed by

A. Effector – spinal cord – receptor B. Brain – spinal cord - muscles
C. Receptor – spinal cord – Effector D. Muscles – receptor – brain

Answer:C. Receptor – spinal cord – Effector

39. The incorrect statement related to thyroxine hormone is

A. it regulates metabolism B. its deficiency leads to goiter
C. it is secreted by parathyroid gland D. iodine is essential for its production

Answer:C. it is secreted by parathyroid gland

40. If the roots of a plant are growing towards nitrate concentrated region of the soil, it is

A. phototropism B. thigmotropism
C. hydrotropism D. chemotropism

Answer:D. Chemotropism

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7. HOW DO ORAGANISMS REPRODUCE?

1. The flower of the Hibiscus plant is.

a) Bisexual b) unisexual c) neuter d) very small

Ans: a) Bisexual

2. The part of the flower which is present in the centre of the flower is.

a) Sepals b) Pistil c) Anther d) Stamens

Ans: b) Pistil

3. The period of pregnancy is called

a) Gestation period b) incubation period c) ovulation d) menstruation period

Ans: a) Gestation period

4. The period during adolescence when the reproductive tissues begin to mature is called.

a) Ovulation b) puberty c) germination d) propagation

Ans: b) puberty

5. Along the path of the vas-deferens the secretions of which gland provide nutrition to the sperms?

a)Prostate gland b) Seminal vesicles c) Scrotum d) Urinary bladder

Ans: a) Prostate gland

6. Which among the following diseases is not sexually transmitted?

a) Syphilis b) Hepatitis c) HIV-AIDS d) Gonorrhoea

Ans: b) Hepatitis

7. Which of the following method of contraception protects from acquiring sexually transmitted diseases?

a) Surgery b) Copper-T c) Condoms d) Oral-pills

Ans: c) Condoms

8. In human males, the testes lie in the scrotum, because it helps in the,

a) Process of mating b) easy transfer of gametes

c) secretion of estrogen d) formation of sperms

Ans: d) formation of sperms

9. Which of the following sterilization methods is permanent?

a) Vasectomy b) Tubal Sterilization c) IUCD d) (a) and (b)

Ans: d) (a) and (b)

10. IUCD is for

a)Contraception. b) Vegetative propagation.

c) Increasing fertility. d) Avoiding miscarriage.

Ans: a)Contraception.

11. The correct sequence of reproductive stages seen in flowering plants is _____

a) Gamete, zygote, embryo, seedling b) zygote, gamete, embryo, seedling

c) Seedling, embryo, zygote, gametes d) gamete, embryo, zygote , seedling

Ans: a) Gamete, zygote, embryo, seedling

12. Name the male and female reproductive part of the plants.

a) Male reproductive part: Petal and female reproductive part :Sepal.

b) Male reproductive part: Pistil and female reproductive part : Stamens.

c) Male reproductive part: Stamens and female reproductive part :Pistil

d) Male reproductive part: Sepal and female reproductive part :Petal.

Ans: c) Male reproductive part : Stamens and female reproductive part :Pistil

13. Why prostate gland secrete fluid.

a) Secretion of Prostate gland makes the transportation of sperm difficult..

b) Secretion of Prostate gland makes the transportation of eggs easier.

c) Secretion of Prostate gland makes the transportation of sperm easier.

d) Stimulates the formation of sperm.

Ans: c) Secretion of Prostate gland makes the transportation of sperm easier.

14. Which of the following is not an important role of placenta during gestation period of woman?

a) They regulate temperature necessary for embryo.

b) It contains villi on the developing side of the tissue

c) Villi provide glucose and oxygen to pass from mother to embryo.

d) Removes the wastes generated from the embryo.

Ans: a) they regulate temperature necessary for embryo.

15. The embryo gets nutrition from the mother's blood with the help of a special tissue called._____

a) Uterus b) placenta c) zygote d) womb

Ans: b) placenta

16. Among the following select the statements that are true regarding the sexual reproduction in flowering plants?

(i) Fertilisation is a compulsory event.

(ii) It always results in the formation of zygote.

(iii) Traits which are not transfer over generation do not cause evolution.

(iv) It requires two types of gametes.

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

Ans: d) (i), (ii) and (iv)

17. Which of the following is an example for unisexual flowering plant?

a) Watermelon. b) Papaya c) both of the above. d) None of the above.

Ans: c) both of the above

18. Which of the following is an future shoot and future root.

a) Futureshoot: cotyledon and Future root: pollen grains. b) Futureshoot: overy and Future root: Radicle.

c) Futureshoot: embryo and Future root: steman. d) Future shoot: Plumule and Future root: Radicle.

Ans: d) Future shoot: Plumule and Future root: Radicle.

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

a) Loss of milk teeth. b) Increase in height. c) Cracking of voice. d) Weight gain.

Ans: c) Cracking of voice

20. Variations occur as a result of.

a) Sexual reproduction b) Asexual reproduction c) vegetative propagation d) regeneration

Ans: a) sexual reproduction

21. Fertilisation occurs in human female when the sperms and ovum reach simultaneously at,

a) fallopian tube b) uterus c) vagina d) cervix

Ans: a) fallopian tube

22. Reproduction is essential for living organisms in order to

a) Keep the individual organism alive b) continue the species generation after generation

c) Fulfil their energy requirement d) Maintain growth

Ans: b) continue the species generation after generation

23. In case the ova does not fertilise, which of the following events will take place?

a) Menstruation b) Implantation c) Pregnancy d) Ovulation

Ans: a) Menstruation

24. Pre-natal sex determination has been prohibited by law due to.

a) High cost charged by doctors. b) Possible dangerous for mother's health

c) Increasing cases of male foeticide. d) increasing cases of female foeticide.

Ans: c) Increasing cases of male foeticide.

25. Human male germ-cells called _____and human female germ cells called _____.

a) Testes, Ovary b) Sperm, Egg c) stigma, stamen d) None of these

Ans: b) Sperm, Egg

26. Seed germination refers to?

a) Development of embryo into seedling b) Transfer of pollen grain from stamen to stigma

c) Development of zygote into embryo d) None of these

Ans: a) Development of embryo into seedling

27. Which of the following is true with respect to menstruation cycle?

a) If fertilisation doesn't occur, thick & spongy lining of uterus break &come out as mucous and blood

b) It lasts for about two to eight days.

c) It happens roughly every month in females

d) All of these

Ans: d) All of these

28. How oral pills prevent pregnancy?

a) Changes the hormonal balance of the body and prevent release of egg. b) Deactivate sperms

c) Create barrier in fallopian tube d) none of these

Ans: a) Changes the hormonal balance of the body and prevent release of egg.

29. Which among the following are not the functions of testes at puberty?

(i) Formation of male germ cells. (ii)Secretion of testosterone.

(iii) Development of placenta (iv) Secretion of estrogen.

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

Ans: b) (i) and (ii)

30. ..... Is a duct coming from the urinary bladder which carries sperms?

a) Fallopian tube b) Uterus. c) Prostate gland. d) Vas deferens.

Ans: d) Vas deferens.

31. During pregnancy menstruation is:

a) Present b) absent c) intermittent d) present with pain

Ans: b) absent

32. After fertilization which structure forms fruit?

a) Calyx b) corolla c) stamen d) ovary

Ans: d) ovary

33. Gland which is found only in males is:

a) Gastric gland b) perineal gland c) prostate gland d) pancreas

Ans: c) prostate gland

34. Testes are present outside the body in man because:

a) There is less space in the abdominal cavity b) temperature is less outside the body

c) Copulation is easy d) none of the above

Ans: b) temperature is less outside the body

35. Transfer of pollen grains from stigma to ovary is called:

a) Pollination b) ovulation c) fertilization d) none of these

Ans: a) Pollination

36. The anther contains:

a) Sepals b) ovules c) carpel d) pollen grains

Ans: d) pollen grains

37. Symptoms of puberty in males are

a). Deepening of voice b). Facial growth on face and genitals

c). Occasional erection of the penis d). a,b and c all

Ans:d). a,b and c all

38. Symptoms of puberty in females are

a). Enlargement of breast b). Initiation of the menstruation cycle c). Both d). None

Ans: c). Both

39. Pistil is

a) Present in the centre of a flower b) the female reproductive part

c) Made of three parts d) all of the above

Ans: d) all of the above

40. The swollen bottom part of flower is

a) Ovary b) style c) stigma d) none of the above

Ans: c) stigma

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8. HERIDITY AND EVOLUTION

1. The plants selected by Mendel for his experiment are

A) Green gram B) Evening prim rose C) Beans D) Green Peas

ANS:D) Green Peas

2. If the fossil of an organism is found in the deeper layers of earth, then we can predict that ....

A) The extinction of organism has occured recently

B) The extinction of organism has occured thousands of years ago

C) The fossil position in the layers of earth is not related to its time of extinction

D) Time of extinction cannot be determined

ANS: B) The extinction of organism has occured thousands of years ago

3. In evolutionary terms, we have more in common with _____

A) A Chinese boy B) A chimpanzee C) A spider D) A bacteria

ANS: B) A chimpanzee

4. A pure dominant pea plant producing round — yellow seeds is crossed with pure recessive pea plant producing wrinkled — green seeds. The number of plants bearing round — green seeds in the F2 generation of Mendel's experiment is

(A) 0 (B) 1 (C) 3 (D) 9

ANS:(C) 3

5. What is the probability that the male progeny will be a boy?

A) 50% B) 56% C) 45% D) it varies

ANS: A) 50%

6. The number of pair (s) of sex chromosomes in the zygote of humans is

A) 22 B) 23 C) 1 D) 2

ANS: B) 23

7. The genotypic ratio in F_2generation in monohybrid cross experiment is

A) 1 : 2 : 1 B) 3 : 1 C) 2 : 1 : 1 D) 1 : 3

ANS: A) 1 : 2 : 1

8. Homologous organs have _____

A) Same structure same function B) different Origin different function

C) Same Origin different function D) different structure same function

ANS: C) same Origin different function

9. Theory of evolution is given by _____.

A) JBS Haldane B) Lamark C) Charles Darwin D) Gregor Mendel

ANS: C) Charles Darwin

10. The exchange in genetic material takes place in _____

A) Vegetative propagation B) Asexual reproduction C) sexual reproduction D) budding

ANS: C) sexual reproduction

11. If a normal cell of human body contains 46 pairs of chromosomes then the numbers of chromosomes in a sex cell of a human being is most likely to be

A) 60 B) 23 C) 22 D) 40

ANS: B) 23

12. Which of the following determines the sex of a child?

A) The length of the mother's pregnancy

B) The length of time between ovulation and copulation

C) The presence of an X chromosome in an ovum

D) The presence of a Y chromosome in a sperm

ANS: D) The presence of a Y chromosome in a sperm

13. the earliest member of human species, Homo sapiens can be traced from

A) West asia B) Australia C) East asia D) Africa

ANS:D) Africa

14. The basket of vegetables contains carrots, potato, radish and tomato. Which of them represents the correct homologous structures?

A) Carrot and Potato B) Carrot and Tomato C) Radish and carrot D) Radish and potato

ANS: C) Radish and carrot

15. Carbon dating is useful to find the

A) Structure of fossils B) Age of fossils C) Origin of fossils D) Carbon content in the fossils

ANS: B) Age of fossils

16. A Mendelian experiment consisted of breeding tall pea plants bearing violet flowers with short pea plants bearing white flowers. The progeny all bore violet flowers, but almost half of them were short. This suggests that the genetic make-up of the tall parent can be depicted as

(a) TTWW (b) TTww (c) TtWW (d) TtWw

ANS: (c) TtWW

17. An example of homologous organs is

(a) our arm and a dog's fore-leg (b) our teeth and an elephant's tusks.

(c) potato and runners of grass. (d) all of the above.

ANS: (a) our arm and a dog's fore-leg

18.If a trait A exists in 10% of population of an asexually reproducing species and a trait B exists in 60% of the same population. Which trait is likely to have arisen earlier?

a) Trait A b) Trait c)Both A & B d)none

ANS: b) Trait

19. Identify the correct pair of analogous organs among the following

(A) The forelimb of man and the forelimb of a frog

(B) The wing of a butterfly and the wing of a bat

(C) The wing of a bird and the wing of a bat

(D) The forelimb of lizard and the forelimb of a frog

ANS: (B) The wing of a butterfly and the wing of a bat

20. In evolutionary terms, we have more in common with

a) a Chinese school boy b) a chimpanzee c) a spider d)a bacterium

ANS: b) a chimpanzee

21. An example of analyses organs is

a) A wing of a bat & wing of a bird b) Potato and turners of grass

c)our teeth & elephant's tusk d) None of the above

ANS: a) A wing of a bat & wing of a bird

22. The process where characteristics are transmitted from parent to offspring's is called

a)Variation b)Heredity c)Gene d)None of the above

ANS: b) Heredity

23. The phenomenon where individuals of a spaces exhibit differences in characteristics is called

a)adaptation b)Evolution c)Variation d) All of the above

ANS: c) Variation

24. Which of the following statement is incorrect?

a) Gene is a sequence of nucleotides

b) During the process of gene expression DNA is first copied to RNA

c) Gene cannot acquire mutations in their sequence

d) None of the above

ANS: c) Gene cannot acquire mutations in their sequence

25 ._____ is the desirable set of characteristics of an organism

a)phenotype b)genes c) DNA d)All of the above

ANS: a) phenotype

26. When a new plants is formed as a result of cross pollination from different varieties of a plant the newly formed plant is called

a) Dominant plant b) Mutant plant c) Hybrid plant d) all of the above

ANS: c) Hybrid plant

27. Who proposed the theory of evolution?

a) Charles Darwin b)Stanely miller c) Aristotle d)Hard Urey.

ANS: a) Charles Darwin

28. Homologous organs are organs that have

a) Different function with different structure b) Same function with same structure

c)same function with different structure d)Different function but same structure

ANS: d) Different function but same structure

29. Which part of the DNA provides information for a protein?

a)Chromosome b)Mitochondria c)RNA d) Gene

ANS: d) Gene

30. Which of the following is not controlled by gene?

a) Eye colour b) Height c) Hair colour d) None of the above

ANS: d) None of the above

31. Which of the following can be inherited from parents to off springs?

a)Swimming technique b)Sculpted body

c) Big nose d) None of the above

ans: c) Big nose

32. Which of the following scientist gave the principles of inheritance?

(a) Mendel (b) Griffin (c) Johansson (d) Watson and Crick

Ans: (a) Mendel

33. Which one of the following pairs are homologous organs?

(a) Forelimbs of a bird and wings of a bat. (b) Wings of a bird and wings of a butterfly.

(c) Pectoral fins of a fish and forelimbs of a horse. (d) Wings of a bat and wings of a cockroach.

Ans: (a) Forelimbs of a bird and wings of a bat.

34. Select the group which shares maximum number of common characters-

(a) two genera of two families (b) two species of a genus

(c) two genera of a family (d) two individuals of a species

Ans: (d) two individuals of a species

35. A cross between a tall pea-plant (TT) and a short pea-plant (tt) resulted in progenies that were all tall plants because

(a) Tallness is the recessive trait. (b) Shortness is the dominant trait.

(c) Height of pea-plant is not governed by gene T or t. (d) Tallness is the dominant trait.

Ans: (d) Tallness is the dominant trait.

36. Process of selecting individuals with desired characters by man is called

(a) Hybridization (b) Reproduction (c) Artificial selection (d) Natural selection

Ans: (c) Artificial selection

37. What does the progeny of a tall plant with round seeds and a short plant with wrinkled seeds look like?

(a) All are tall with round seeds. (b) All are short with round seeds.

(c) All are tall with wrinkled seeds. (d) All are short with wrinkled seeds.

Ans: (a) All are tall with round seeds

38. Some dinosaurs had feathers although they could not fly but birds have feathers that help them to fly. In the context of evolution this means that

(a) Reptiles have evolved from birds

(b) There is no evolutionary connection between reptiles and birds

s(c) Feathers are homologous structure in both the organisms

(d) Birds have evolved from reptiles.

Ans: (d) Birds have evolved from reptiles.

39. A zygote which has an X-chromosome inherited from the father will develop into a

(a) Girl (b) boy (c) either boy or girl (d) X-chromosome does not influence the sex of a child.

Ans: (a) girl

40. The process of evolution of a species whereby characteristics which help individual organisms to survive and reproduce are passed on to their offspring and those characteristics which do not help are not passed on is called.

(a) Artificial selection b) Speciation (c) Hybridization (d) Natural selection

Ans: (d) Natural selection

41. Which of the following decides the sex of the child?

(a) male gamete, i.e.,sperm (b) female gamete, i.e.,ovum

(c) both sperm and ovum (d) mother

Ans: (a) male gamete, i.e.,sperm

42. Which of the following is the ancestor of 'Broccoli'?

(a) Cabbage (b) Cauliflower (c) Wild cabbage (d) Kale

Ans: (c) Wild cabbage

43. According to the evolutionary theory formation of a new species occurs generally due to-

(a) Sudden creation by nature.

(b) accumulation of variations over several generations

(c) clones formed during asexual reproduction

(d) Movement of individuals from one habitat to another.

Ans: (b) accumulation of variations over several generations

44. Which of the following is not correct-?

(a) For every hormone there is a gene. (b) For every protein there is a gene.

(c) For production of every enzyme there is a gene. (d) For every molecule of fat there is a gene.

Ans: (d) For every molecule of fat there is a gene.

45. If a round, green seeded pea-plant (RRyy) is crossed with a wrinkled yellow seeded pea- plant (rrYY), the seeds produced in F1 generation are

(a) Round and green (b) round and yellow (c) wrinkled and green (d) wrinkled and yellow

Ans: (b) round and yellow

46. The concept of origin of species by natural selection was given by.

(a) lamarck (b) Weismann (c) Darwin (d) Linnaeus

Ans: (c) Darwin

47. The genetic constitution of an organism is called.

(a) Genotype (b) phenotype (c) variation (d) gene.

Ans: (a) Genotype

48. A man with blood group A marries a woman having blood group O. What will be the blood group of the child?

(a)' O' only (b) 'A 'only (c) 'AB' (d) Equal chance of acquiring blood group A or blood group O

Ans: (d) Equal chance of acquiring blood group A or blood group O

49. Identify the two organisms which are now extinct and are studied from their fossils.

(a) White tiger and sparrow (b) Dinosaur and fish (Knightia)

(c) Ammonite and white tiger (d) Trilobite and white tiger)

Ans: (b) dinosaur and fish (Knightia)

50. Those organs which have the same basic structure but different functions are called

(a) Vestigial organs (b) Analogous organs (c) Homologous organs (d) None of these

Ans: (c) Homologous organs

51. Which of the following characters can be acquired but not inherited?

(a) Colour of skin (b) Size of body (c) Colour of eyes (d) Texture of hair

Ans: (b) Size of body

52. Differences between organisms in a species are described as variation. Which of the following would you describe as continuous variation?

(a) Hair colour (b) Eye colour (c) Weight (d) Sex

Ans: (c) Weight

53. Mendel proposed that every character is controlled by-

(a) One factor (b) two factors (c) one chromosome (d) two chromosomes.

Ans: (b) two factors

54.Two pink colored flowers on crossing results in 1 red, 2 pink and 1 white flower progeny. The nature of the cross is-

(a) Cross-fertilization (b) self pollination (c) double fertilization (d) no fertilization

Ans: (a) cross-fertilization

55. The remaps (impressions) of dead animals or plant? That lived in the remote past are known as

(a) Extinct species (b) fossils (c) naturally selected species (d) none of the above

Ans: (b) fossils

56. A cross between two individuals results in a ratio of 9 : 3 : 3 :1 for four possible phenotypes of progeny. This is an example of a

(a) Monohybrid cross (b) Dihybrid cross (c) Test cross (d) F1 generation

Ans: (b) Dihybrid cross

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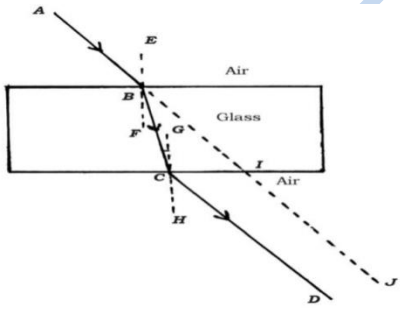
9. LIGHT: REFRACTION AND REFLECTION

1. Identify the emergent ray in the given figure.



a) CD b) BC c) AB d) IJ

Ans: a) CD

2. An object is kept at the centre of curvature of a convex lens. The position and nature of the image formed is.

a) Between F and C and inverted. b) Behind the mirror and erect.

c) Between F and P and erect. d) At the centre of curvature and inverted.

Ans: d) at the centre of curvature and inverted.

3. When a beam of light travelling obliquely from one medium to another, the direction of propagation of light in the second medium changes this phenomenon is known as

a) Refraction of light. b) Reflection of light. c) Dispersion of light. d) Total internal reflection of light.

Ans: a) Refraction of light.

4. Identify the correct option of first and second law of refraction of light.

i) Incident ray, refracted ray and normal to the interface of two transparent media at the point of incidence, all lie in same plane.

ii) Angle of incidence is equal to angle of reflection.

iii) Incident ray, normal to the mirror at point of incidence and reflected ray, all lies in the same plane.

iv) Ratio of sine of angle of incidence to Sine of angle of refraction is constant for light of given colour and pair of media.

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

Ans: c) i) and iv)

5. In which of the following media the light will it travel very fast compare to other media.[diamond (RI = 2.42), kerosene (RI = 1.44), water (RI = 1.31), rock salt (RI = 1.54).]

a) Rock salt. b) Water c) Kerosene d) Diamond.

Ans: b) Water

6. In which of the following media is an optically denser and optically rarer.[kerosene (RI = 1.44), water (RI = 1.31)]

a) Kerosene is a denser media and water is rarer medium.

b) Kerosene is a rarer media and water is denser medium.

c) Both the media's are rarer media.

d) Both the media's are denser media.

Ans: a) Kerosene is a denser media and water is rarer medium.

7. The ratio of sine of angle of incidence to the Sine of angle of refraction is a constant, for the light of a given colour and for the given pair of media This law is also known as._____.{This law is true for angle $0 < i < 90°$}.

a) Law of reflection b) Snell's law of refraction c) ohm's law d) Dispersion.

Ans: b) snell's law of refraction

8. A Ray of light travelling from kerosene to water, speed up and bend___A__. And then travelling into alcohol, slow down and the band___B__.

a) Towards the normal and B) away from the normal

b) Away from the normal and B) Away from the normal

c) Towards the normal and B) towards the normal

d) Away from the normal and B) towards the normal

Ans: d) away from the normal and B) towards the normal

9. A lens may have two spherical surfaces, bulging outwards, such a lens is called.____

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

Ans: d) convex lens.

10. A lens may have two spherical surfaces, curved in words, such a lens is called.____

a) Concave lens b) convex lens. c) Plano concave lens. d) Plano convex lens.

Ans: a) Concave lens

11. Which of the following is a converging lens?

a) Concave lens. b) Plano concave lens. c) Glass slab. d) Convex lens.

Ans: a) d) Convex lens.

12. Which of the following is a diverging lens?

a) Concave lens. b) Plano concave lens. c) Glass slab. d)convex lens.

Ans: a) a) Concave lens.

13. The centre of the spherical refracting surface of the lens is called

a) Optic centre b) principal axis c) Pole. d) Centre of curvature.

Ans: c) Pole.

14. The point on the principal axis at the centre of the lens is called

a) Pole. b) Optical centre. c) Aperture. d) Focal point.

Ans: b) Optical centre.

15. A lens has two spherical surfaces; these two spherical surfaces form a part of a sphere. The centre of these spheres is known as

a) Focal point. b) Principal axis. c) Pole. d) Centre of curvature.

Ans: d) Centre of curvature.

16. An imaginary line passing through the centres of curvature and the pole is called_____.

a) Principal axis. b) Centre of curvature. c) Principal focus. d) Aperture.

Ans: a) Principal axis.

17. The area of the lens suitable for refraction is called

a) Principal axis. b) Centre of curvature c) Aperture. d) Principal focus.

Ans: c) Aperture.

18. the point where a beam parallel to the principal axis appears to diverge or converges from a point on the principal axis after passing through the lens. Called_____

a) Optical centre b) Principal focus c) Centre of curvature d) Principal axis

Ans: b) Principal focus

19. The distance between the optical centre and the focal point or focus of the lens called_____

a) Centre of curvature. b) Focal length. c) Radius of curvature. d) Optical centre.

Ans: b) Focal length.

20. Ray of light from the object parallel to principal axis, after refraction from a convex lens passes through _____

a) Centre of curvature. b) Optical centre. c) Principal focus. d) Beyond centre of curvature.

Ans: c) Principal focus.

21. A ray of light passing through or appearing to meet a principal focus, after refraction from the convex lens will emerge _____

a) Through optical centre. b) Through centre of curvature.

c) Through principal focus. d) Parallel to the principal axis.

Ans: d) Parallel to the principal axis.

22. A ray of light passing through the optical centre of a lens wills emerge_____

a) Through principal focus b) without any deviation.

c) Through centre of curvature. d) Parallel to the principal axis.

Ans: b) without any deviation.

23. In the experiment of refraction of light through a glass slab, which of the following situation refraction of light takes place When the,

a) Angle of incidence is 90°. b) Angle of incidence is more than 90°.

c) Angle of incidence is less than 90°. d) Angle of incidence is 0°.

Ans: c) Angle of incidence is less than 90°.

24. The image formed by convex lens is real, inverted and of the same size as that of the object. The position of object should be,

a) At the focus. b) At the centre of curvature.

c) Between focus and centre of curvature. d) Beyond centre of curvature.

Ans: b) At the centre of curvature.

25. Magnifying power of a concave lens is.

a) Always> 1 b) always < 1 c) always = 1 d) can have any value

Ans: b) always < 1

26. Magnifying power of a convex lens is.

a) Always> 1 b) always< 1 c) always = 1 d) can have any value

Ans: a) Always > 1

27. Which of the following is an correct Nature, Position of the image formed by convex lens when the object is placed at infinity.

a) Position of the image at 2F2 and Nature of the image is virtual and erect.

b) Position of the image at focus F2 and Nature of the image is real and inverted.

c) Position of the image at focus F2 and Nature of the image is virtual and erect.

d) Position of the image at infinity and Nature of the image is real and inverted.

Ans: b) Position of the image at focus F2 and Nature of the image is real and inverted.

28. Which of the following is a correct Position, and Relative size of the image formed by convex lens when the object is placed beyond centre of curvature (2F1).

a) Position of the image: between F2 and 2F2 and nature of image is real and inverted.

b) Position of the image: at infinity and nature of image is real and inverted.

c) Position of the image: beyond 2F2 and nature of image is virtual and erect.

d) Position of the image: at 2F2 and nature of image is virtual and erect.

Ans: a) Position of the image: between F2 and 2F2 and nature of image is real and inverted.

29. If the magnification produced by a lens has a negative value, the image will be.

a) Virtual and inverted b) virtual and erect c) real and erect d) real and inverted

Ans: b) virtual and erect

30. If the magnification produced by a lens has a positive value, the image will be.

a) Virtual and inverted b) virtual and erect c) real and erect d) real and inverted

Ans: d) real and inverted

31. The ratio of the height of the image and the height of the object is called_____

a) Power of lens. b) Magnification. c) De magnification. d) Snell's law.

Ans: b) Magnification.

32. Choose the correct definition of power of lens.

a) Capacity to capture longer distance. b) The reciprocal of its centre of curvature.

c) The reciprocal of its focal length. d) Capacity to capture shorter distance.

Ans: c) The reciprocal of its focal length.

33. What is the meaning of 1 dioptre?

a) The power of a lens whose focal length is 1 metre.

b) The power of a lens whose focal length is 1 centimetre.

c) The power of a lens whose focal length is 1 millimetre.

d) The power of a lens whose focal length is 1 nanometre.

Ans: a) The power of a lens whose focal length is 1 metre.

34. By using following information identify the concave lens and convex lens. 'A' lens has power = -0.25D 'B' lens has power = + 0.5D

a) 'A' lens is convex lens and 'B' lens is concave lens

b) 'A' lens is concave lens and 'B' lens is convex lens

c) We can't identify by using this given information.

d) 'A' and 'B' both are convex lens.

Ans: b) 'A' lens is concave lens and 'B' lens is convex lens

35. The focal length of convex lens is 0.25 m calculate the power of lens

a) +1D b) +2D c) +3D d) +4D

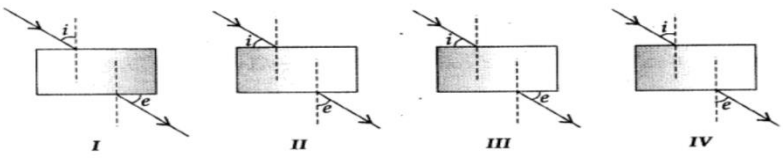
Ans: d) +4D

36. The laws of refraction hold good for

a) Plane mirror only b) concave mirror onl c) convex mirror only d) concave lens.

Ans: d) concave lens.

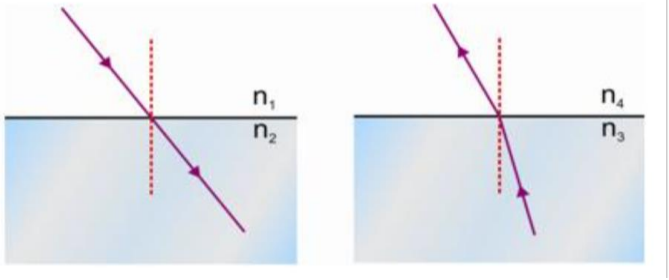
37. A student does the experiment on tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. He can get a correct measure of the angle of incidence and the angle of emergence by following the labelling indicated in figure:



d) IV

Ans: d) IV

38. for the given ray diagrams, which of the following statement is true (note: n = refractive index)



a) $n_1 = n_2$ and $n_3 > n_4$ b) $n_2 > n_1$ and $n_3 > n_4$ c) $n_1 = n_2$ and $n_3 < n_4$ d) $n_1 = n_2$ and $n_3 = n_4$

Ans: b) $n_2 > n_1$ and $n_3 > n_4$

39. The radius of curvature of a mirror is 20cm the focal length is

a). 20cm b). 10cm c). 40cm d). 5cm

Ans: a). 20cm

40. You are given three media A, B and C of refractive index 1.33, 1.65 and 1.46. The medium in which the light will travel fastest is

a) A b) B c) C d) equal in all three media.

Ans: a) A

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10. ELECTRICITY

1. What is the amount of current flowing through an electric press, if the amount of charge passing through a conductor in 10 minutes is 300 C?

A. 30 A B. 0.3 A

C. 0.5 A D. 5 A

Answer: C. 0.5 A

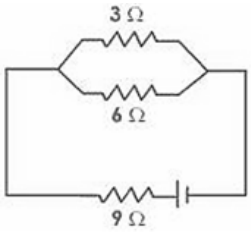
2. In the given figure, the resistors

A. 6 Ω, 3 Ω and 9 Ω are in series

B. 9 Ω and 6 Ω are in parallel and the combination is in series with 3 Ω

C. 3 Ω, 6 Ω and 9 Ω are in parallel

D. 3 Ω and 6 Ω are in parallel and the combination is in series with 9 Ω



Answer: D. 3 Ω and 6 Ω are in parallel and the combination is in series with 9 Ω

3. When a current 'I' flows through a resistance 'R' for time't' the electrical energy spent is given by

A. IRt B. I^2Rt

C. IR^2t D. I^2R/t

Answer: B. I^2Rt

4. A wire of resistance R_1 is cut into five equal pieces. These five pieces of wire are then connected in parallel. If the resultant resistance of this combination be R_2, then the ratio R_1/R_2 is:

A. 1/25 B. 1/5

C. 5 D. 25

Answer: D. 25

5. Which of the given is the SI Unit of Electric Current?

A. Ohm B. Ampere

C. Volt D. Faraday

Answer: B. Ampere

6. A fuse wire is inserted in which wire?

A. Live wire B. In the neutral wire

C. In the earth wire D. May be connected in any line

Answer: A. Live wire

7. The rate of flow of an electric charge is known as:

A. Electric potential B. Electric conductance

C. Electric current D. None of these

Answer: C. Electric current

8. The instrument used for measuring electric current is:

A. Ammeter B. Galvanometer

C. Voltmeter D. Potentiometer

Answer: A. Ammeter

8. The relation between potential difference (V) and current (I) is :

A. V α I2 B. V α 1/I

C. V2 α I D. V α I

Answer:D. V α I

9. Which of the given statements is not true, regarding the electrical set-up for the verification of Ohm's law:

A. The voltmeter is connected in parallel with the known resistance
B. The ammeter is connected in series circuit
C. The rheostat can only increase the resistance in electric circuit
D. The single key is used to switch on/off the electric circuit

Answer:C. The rheostat can only increase the resistance in electric circuit

10. On which of the given resistance does not depend:

A. Length of conductor B. Area of cross-section
C. Temperature D. Density

Answer:D. Density

11. Which of the given statements is true regarding ammeter and voltmeter?

A. Ammeter is connected in series with the required device, Voltmeter in parallel
B. Both ammeter and voltmeter are connected in series with required device
C. The voltmeter is connected in series with the device, Ammeter in parallel
D. They can be connected in any way

Answer:A. Ammeter is connected in series with the required device, Voltmeter in parallel

12. An electric heater is rated at 2 Kw. Electrical energy costs Rs 4 per k Wh. What is the cost of using the heater for 3 hours?

A. Rs. 12 B. Rs. 24 C. Rs. 36 D. Rs. 48

Answer:B. Rs. 24

13. The commercial unit of energy is:

A. Watt B. Watt-hour C. Kilowatt-hour D. Kilo-joule

Answer:C. Kilowatt-hour

14. An electric fuse works on the:

A. Chemical effect of current B. Magnetic effect of current
C. Lighting effect of current D. Heating effect of current

Answer:D. Heating effect of current

15. A car headlight bulb working on a 12 V car battery draws a current of 0.5 A. The resistance of the light bulb is:

A. 0.5 Ω B. 6 Ω C. 12 Ω D. 24 Ω

Answer:D. 24 Ω

16. The resistivity of a certain material is 0.6 Ωm. The material is most likely to be:

A. An insulator B. A superconductor
C. A conductor D. A semiconductor

Answer:D. A semiconductor

17. If the amount of electric charge passing through a conductor in 10 minutes is 300 C, the current flowing is:

A. 30 A B. 12.03 A C. 12.05 A D. 5.00 AM

Answer:C. 12.05 A

18. Keeping the potential difference constant, the resistance of a circuit is doubled. The current will become:

A. Double B. Half C. One-fourth D. Four times

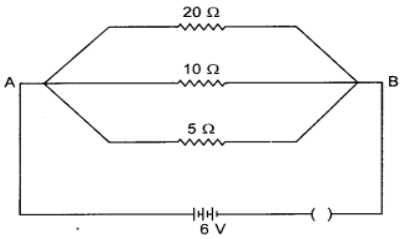
Answer:B. Half

19. Which of the following is not correctly matched?

(a) —|+ −|— : An electric cell
(b) —/\/\/\— : A resistor
(c) —(•)— : Open plug key

Answer: C. Open plug key

20. Calculate the current flows through the 10 Ω resistor in the following circuit.



A. 1.2 A B. 0.6 A C. 0.2 A D. 2.0 A

Answer:B. 0.6 A

21. A battery of 10 volt carries 20,000 C of charge through a resistance of 20 Ω. The work done in 10 seconds is

(a) 2×10^3 joule (b) 2×10^5joule (c) 2×10^4 joule (d) 2×10^2 joule

Answer: b

Explanation:

(b) W= qV= 20000 × 10 = 2,00, 000 = 2 × 105 J

22. A fuse wire repeatedly gets burnt when used with a good heater. It is advised to use a fuse wire of

(a) More length (b) less radius (c) less length (d) more radius

Answer: d

23. A cooler of 1500 W, 200 volt and a fan of 500 W, 200 volt are to be used from a household supply. The rating of fuse to be used is

(a) 2.5 A (b) 5.0 A (c) 7.5 A (d) 10 A

Answer: d

24. The resistivity does not change if

(a) The material is changed (b) The temperature is changed

(c) The shape of the resistor is changed (d) both material and temperature are changed

Answer: c

25. Coulomb is the SI unit of:

(a) Charge (b) current (c) potential difference (d) resistance

Answer: a

26. The heating element of an electric iron is made up of:

(a) Copper (b) nichrome (c) aluminium (d) iron

Answer: b

27. The electrical resistance of insulators is

(a) High (b) low (c) zero (d) infinitely high

Answer: d

28. Electric power is inversely proportional to

(a) Resistance (b) voltage
(c) current (d) temperature

Answer: a

29. What is the commercial unit of electrical energy?

(a) Joules (b) Kilojoules (c) Kilowatt-hour (d) Watt-hour

Answer: c

30. Which of the following gases are filled in electric bulbs?

(a) Helium and Neon (b) Neon and Argon (c) Argon and Hydrogen (d) Argon and Nitrogen

Answer: d

31. When electric current is passed, electrons move from:

(a) High potential to low potential. (b) Low potential to high potential.

(c) In the direction of the current. (d) Against the direction of the current.

Answer: b

32. Electrical resistivity of any given metallic wire depends upon

(a) Its thickness (b) its shape (c) nature of the material (d) its length

Answer: c

33. An electric bulb is connected to a 220V generator. The current is 0.50 A. What is the power of the bulb?

(a) 440 W (b) 110 W (c) 55 W (d) 0.0023 W

Answer: b

(Here, V = 220 V, I = 0.50 A, Power (P) = VI = 220 x 0.50 = 110 W)

34. 1 kWh = ... J

(a) 3.6×10^{-6} J (b) $1/3.6 \times 10^{6}$ J (c) 3.6×10^{6} J (d) 13.6×10^{-6} J

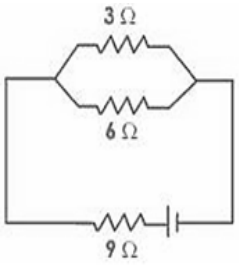
Answer: c

35. Two electric bulbs have resistances in the ratio 1:2. If they are joined in series, the energy consumed in them is in the ratio.

(a) 2:1 (b) 1:2 (c) 4:1 (d) 1:1

Answer: (b) 1:2

36. In the given figure, the resistors



(a) 6 Ω, 3 Ω and 9 Ω are in series

(b) 9 Ω and 6 Ω are in parallel and the combination is in series with 3 Ω

(c) 3 Ω, 6 Ω and 9 Ω are in parallel

(d) 3 Ω and 6 Ω are in parallel and the combination is in series with 9 Ω

Answer: (d) 3 Ω and 6 Ω are in parallel and the combination is in series with 9 Ω

37. What is the rate of flow of electric charges called?

(a) Electric potential (b) Electric conductance

(c) Electric current (d) none of these

Ans. (c) Electric current

38. Which of the following is the SI Unit of Electric Current?

(a) ohm (b) ampere (c) volt (d) faraday

Ans: (b) ampere

39. Which instrument is used for measuring electric potential?

(a) Ammeter (b) galvanometer (c) voltmeter (d) potentiometer

Ans: (c) voltmeter

40. When one unit electric charge moves from one point to another point in an electric circuit, then the amount of work done in joules is known as?

(a) Electric current (b) electric resistance

(c) Electric conductance (d) potential difference

Ans: (d) potential difference

41. The hindrance presented by material of conductor to the smooth passing of electric current is known as:

(a) Resistance (b) Conductance (c) Inductance (d) None of these

Ans: (a) Resistance

42. The resistance of a conductor is directly proportional to:

(a) Its area of cross-section (b) density c) melting point (d) length

Ans: (d) length

43. The purpose of a rheostat is:

(a) Increase the magnitude of current only (b) Decrease the magnitude of current only

(c) Increase or decrease the magnitude of current (d) none of these.

Ans: (c) Increase or decrease the magnitude of current

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11. MAGNETIC EFFECT OF ELECTRIC CURRENT

1. The magnetic field around a current carrying circular loop can be increased by

A. Increasing the radius of the coil.
B. Converting the coil into straight wire.
C. Decreasing the radius of the coil.
D. Reducing the amount of electric current through the coil.

Ans: C

2. Correct statement about the magnetic field produced by the solenoid is

A. There is a uniform magnetic field around the solenoid,
B. Magnetic field is same at all points inside the solenoid
C. Solenoid produces circular magnetic field around it.
D. Magnetic field varies at different points inside the solenoid.

Ans: B

3. Which of the given correctly describes the magnetic field near a long straight wire?

A. The field consists of straight lines perpendicular to the wire
B. The field consists of straight lines parallel to the wire
C. The field consists of radial lines originating from the wire
D. D.The field consists of concentric circles centred on the wire

Ans: D

4. The direction of magnetic lines of force around a straight wire current carrying conductor can be obtained by

A. Oersted's experiment
B. Right hand thumb rule
C. Flemings right hand rule
D. Fleming left hand rule

Ans: B

5. The presence of magnetic field at a point can be detected by:

A. a Strong magnet
B. a solenoid
C. a compass needle
D. a current carrying wire

Ans: C

6. A positively charged particle (alpha particle) projected towards west is deflected towards north by a magnetic field. The direction of magnetic field is

A. towards south
B. towards east
C. downward
D. upward

Ans: D

7. An electron enters a magnetic field at right angles to it as shown in the figure. The direction of force acting on the electron will be

A. to the right
B. to the left
C. out of the page
D. into the page

Ans: C

8. Which of the following property of a proton doesn't change while it moves freely in a magnetic field?

A. Mass B. speed C. velocity D. momentum

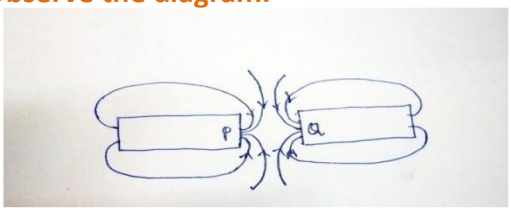
Ans: A

9. The direction of induced current can be obtained by:

A. Fleming's left hand rule
B. Right hand thumb rule
C. Fleming's right hand rule
D. Faraday experiment

Ans: C

10. Observe the diagram.



The magnetic poles represented by P and Q respectively are

A. south (S) and south (S)
B. north (N) and south (S)
C. north (N) and north (N)
D. south (S) and north (N)

Ans: A

11. A domestic electric appliance requires alternating current of 15V. If 220V of alternating current is supplied to the house, then the device that helps in the functioning of that electric appliance is.

A. induction coil
B. step up transformer
C. AC dynamo
D. step down transformer

Ans: A

12. In Fleming's right hand rule, middle figure indicates the direction of:

A. magnetic field
B. induced electric current
C. mechanical energy
D. motion of the conductor

Ans: B

13. The magnetic field inside a long straight solenoid-carrying current

A. is zero
B. decreases as we move towards its end
C. increases as we move towards its end
D. is the same at all points

Ans: D

14. Which of the following property of a proton can change while it moves freely in a magnetic field? (There may be more than one correct answer.)

A. mass B. Speed C. velocity D. Momentum

Ans: C&D

15. A positively-charged particle (alpha-particle) projected towards west is deflected towards north by a magnetic field. The direction of magnetic field is

A. towards south
B. towards east
C. downward
D. upward

Ans: D

16. A rectangular coil of copper wires is rotated in a magnetic field. The direction of the induced current changes once in each

A. two revolutions
B. one revolution
C. half revolution
D. one- fourth revolution

Ans: C

17. Which of the following correctly describes the magnetic field near a long straight wire?

A. The field consists of straight lines perpendicular to the wire
B. The field consists of straight lines parallel to the wire
C. The field consists of radial lines originating from the wire
D. The field consists of concentric circles centered on the wire

Ans: D

18. The phenomenon of electromagnetic induction is

A. the process of charging a body
B. the process of generating magnetic field due to a current passing through a coil
C. producing induced current in a coil due to relative motion between a magnet and the coil
D. the process of rotating a coil of an electric motor

Ans: C

19. The device used for producing electric current is called a

A. generator B. galvanometer C. ammeter D. Motor

Ans: D

20. The essential difference between an AC generator and a DC generator is that

A. AC generator has an electromagnet while a DC generator has permanent magnet.
B. DC generator will generate a higher voltage.
C. AC generator will generate a higher voltage.
D. AC generator has slip rings while the DC generator has a commutator.

Ans: D

21. At the time of short circuit, the current in the circuit

A. reduces substantially
B. does not change
C. increases heavily
D. vary continuously

Ans: C

22. The magnetic field lines outside a bar magnet:

A. Originate from the South pole and end at its North Pole
B. Originate from the North pole and end at its East Pole
C. Originate from the North Pole and end at its South Pole
D. Originate from the South pole and end at its West Pole

Ans: C

23. The north pole of Earth's magnet is in the:

A. Geographical South
B. Geographical East
C. Geographical West
D. Geographical North

Ans: A

24. A soft iron bar is inserted inside a current-carrying solenoid. The magnetic field inside the solenoid:

A. Will decrease
B. Will increase
C. Will become zero
D. Will remain the same

Ans: B

25. A current carrying conductor is held in exactly vertical direction. In order to produce a clockwise magnetic field around the conductor, the current should be passed in the conductor:

A. From top to bottom
B. From left to right
C. From bottom to top
D. From right to left

Ans: A

26. The force exerted on a current carrying wire placed in a magnetic field is zero when the angle between wire and the direction of magnetic field is:

A. 45_o B. 60_o C.90_o D.180_o

Ans: D

27. An induced emf is produced when a magnet is moved into a coil. The magnitude of induced emf doesnot depend on:

A. The speed with which the magnet is moved
B. The number of turns of the coil
C. The resistivity of the wire of the coil
D. The strength of the magnet

Ans: C

28. A positive charge is moving towards a person. The direction of magnetic field lines will be in clockwise direction

A. Anticlockwise direction
B. Vertically upward direction
C. Vertically downward direction
D. Clockwise direction

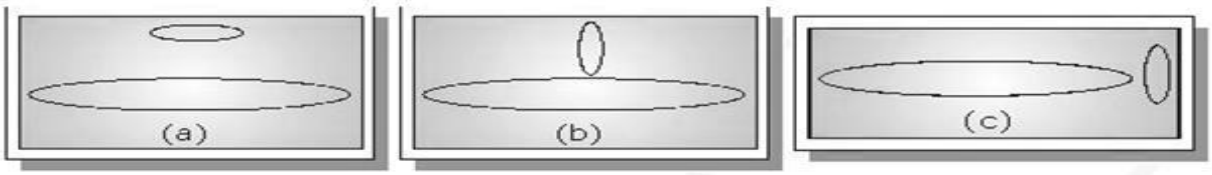
Ans: A

29. A fuse should always be placed in the

A. Live wire of the main circuit
B. Neutral wire of the main circuit
C. Earth wire of the main circuit
D. Bothe live and neutral wire of the main circuit.

Ans: A

30. If two circular coils can be arranged in any of the three situations as shown in the diagrams below, then their mutual induction will be:



A. Maximum in situation a
B. Maximum in situation b
C. Maximum in situation c
D. The same in all situations

Ans: A

31. A coil of insulated copper wire is connected to a galvanometer forming a loop and a magnet is:

A: Held stationary
B: Moved away along its axis
C: Moved towards along its axis
D: There will be a induced current in:

A. only A
C. B and C only

B. A and B only D. A, B and C

Ans: C

32. The shape of the magnetic field lines produced by a current carrying conductor is:

A. Straight lines B. Concentric circles

C. Concentric ellipse D. Concentric parabolas

Ans: B

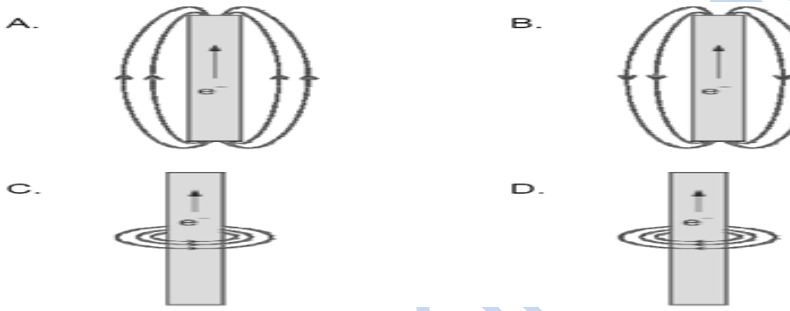
33. An electric motor is a device which transforms

A. Mechanical energy into electrical energy B. Electrical energy into mechanical energy

C. Kinetic energy into potential energy D. Electrical energy into Potential energy

Ans: B

34. Which of the following diagrams correctly shows the magnetic field produced by a current-carrying Wire?



Ans: D

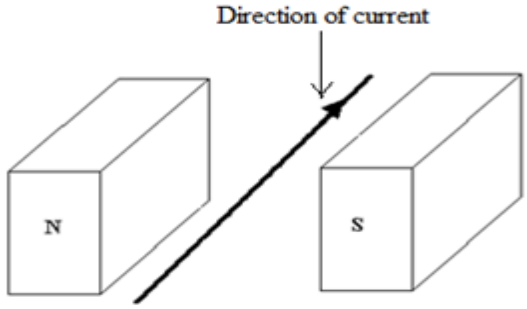
35. The frequency of electricity produced by DC generator is equal to

A. 0 Hz B.50 Hz C.100 Hz D.200 Hz

Ans: A

36. A current flows in a wire running between the S and N poles of a magnet lying horizontally as shown in the figure below:

The force on the wire due to the magnet is directed:



A. From N to S B. From S to N C. Vertically downwards D. Vertically upwards

Ans: C

37. in Right hand thumb rule, thumb indicates the direction of------

A. Current B. Motion of conductor

C. Magnetic force D. Mechanical force

Ans: B

38. How can you increase the strength of magnetic field around a current carrying conductor?

A. By increasing the strength of current through the conductor.
B. By decreasing the length of the conductor
C. By decreasing the strength of current through the conductor.
D. By using conductor of high resistance.

Ans: A

39. As we move away from a current carrying conductor the strength of magnetic field

A. decreases
B. increases
C. remains the same
D. depends on length of the conductor

Ans: A

40. Around a current carrying conductor magnetic field lines are arranged like

A. Straight lines parallel to conductor
B. Straight lines perpendicular to conductor.
C. Concentric circles perpendicular to the plane of conductor
D. Concentric circles in the plane of conductor.

Ans: C

41. Referring the figure given below, which of the following is correct regarding magnetic field at various points?

A. A=C=D >B B. A>B>C>D C. A=C < D < B D. A = C > D > B

Ans: D

42. Hold a current-carrying straight conductor in your right hand such that the …….. Points towards the direction of current. Then fingers which circle around the conductor indicate the direction of the field lines.

A. fore finger
B. middle finger
C. thumb
D. little finger

Ans: C

43. Select the correct use of solenoid.

A. To produce uniform magnetic field.
B. To magnetize a piece of magnetic material.
C. to change the direction motion of a beam of electrons
D. All the above.

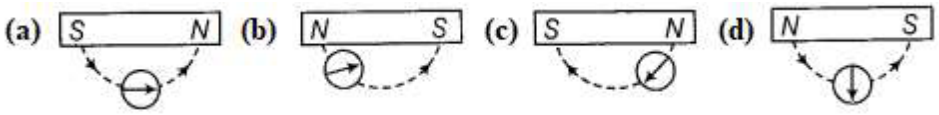
Ans: D

44. A current through a horizontal power line flows in east to west direction. What is the direction of magnetic field at a point directly below it?

A. Towards north
B. towards south
C. Towards east
D. towards west

Ans: B

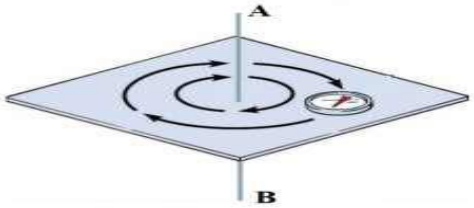
45. Select the correct diagram



Ans: C

46. According to the diagram direction of flow of electrons in the conductor AB is

A. A to B
B. B to A
C. Clockwise around AB
D. Anticlockwise around AB



Ans: B

47. The rule which gives the direction of magnetic field around a current carrying Conductor is

A. Left hand thumb rule
B. Right Hand Thumb Rule
C. Fleming's Left hand rule
D. Fleming's Right hand rule

Ans: B

48. Which are the following are Commutators

A. Split rings
B. Brushes
C. Axel
D. Magnets

Ans: A

49. The direction of current changes in every

A. 1 revolution
B. 2 revolution
C. Half revolution
D. 4 revolution

Ans: C

50. In left hand thumb rule direction of current is indicated by

A. Fore finger B. Middle finger C. Thumb D. None of the above

Ans: B

****

12. SOURCES OF ENERGY

1) Energy equivalent of one a.m.u is

a)2.29MeV b)15MeV c)931MeV d)96MeV

Ans: c. 931MeV

2) A quarter of our energy requirement in India is met by

a) Hydro power plant b) Thermal power plant

c) Geothermal power plant d) none of the above

Ans: a) Hydro power plant

3). Correct sequence of energy conversion in wind mill is

a)mechanical energy--->wind energy-->electric energy

b) Wind energy-->mechanical energy-->electric energy

c) Mechanical energy-->electric energy-->wind energy

d)electric energy-->wind energy-->mechanical energy

Ans:b) wind energy-->mechanical energy-->electric energy

4) Ocean thermal energy is due to

a) Number of minerals is more

b) Tides arising out in the Ocean

c)Temperature difference at different levels in the ocean

d)Pressure difference at different levels in the ocean

ans: c)Temperature difference at different levels in the ocean

5) which country is famous as "Country of winds"

a) India b) Denmark c) Newzealand d) West indies

Ans: b) Denmark

6) Find false statement about Biogas

a) It contains up to 75% of methane

b) It burns without smoke

c) Leaves residue like ash in wood &charcoal

d) Heating capacity is high

Ans: c) Leaves residue like ash in wood and charcoal

7) If we increase the height of the water reservoir, what will happen?

a) Hindrance in water movement

b) More electricity produces

c) Less electricity produces

d) Damage in turbine

Ans:b) more electricity produces.

8). Choose the incorrect statement about renewable energy sources

a) They are pollution free

b) They are abundant

c) They are also called as inexhaustible

d) Petrol is also renewable source of energy

Ans: d) petrol is also renewable source of energy

9). the process by which energy is produced in the sun is

a) Nuclear fusion b) Nuclear fission c) both a & b d) combustion of hydrogen

Ans: a) nuclear fusion

10) Quality of fuel is measured by

a) initial value b) combustion value c) Calorific value d) none of the above

Ans: c) Calorific value

11) Full form of OTEC

a) Ocean thermal energy conversion b) Ocean thermal energy combination

c) Ocean technical energy conversion d) Ocean technical energy combination

Ans: a) Ocean thermal energy conversion plant

12) Minimum speed of wind to run a windmill

a) 5km) h b) 15km/h c) 25km/h d) 35km/h

Ans: a) 15km/h

13) Wind energy is used to

i) Produce electricity

ii) Draw underground water

iii) Operate water pumps

Among these which is/are correct.

a)I&ii b)i&iii c)ii d)i,ii,iii

Ans:d)i,ii,iii

14) Ultimate source of energy is

a) Water b) air c) forest d)sun

Ans: d) sun

15) Bio-gas is produced from bio- mass by

a) Destructive distillation b) Fractional distillation

c) Evaporation d) anaerobic fermentation

Ans: d) anaerobic fermentation

16). If we lit a candle, there is heat and light. It is

a) Exothermic b) Endothermic c) galvanization d) none of the above

Ans : a) Exothermic

17) Spent slurry is rich in

a) Nitrogen and phosphorus b) Oxygen and Carbon dioxide

c) Magnesium and carbon dioxide d) Oxygen and magnesium

Ans: a) Nitrogen and phosphorus

18) There are 4 fuels which all contain only carbon and hydrogen, the fuel having highest calorific value will be one which has:

a)less of carbon as well as less of hydrogen

b) more of carbon but less of hydrogen

c)equal proportions of carbon & hydrogen

d) less of carbon but more of hydrogen

Ans: d) less of carbon but more of hydrogen

19) The power generated in a wind mill

a) Is more in winter season b) is more in rainy season

c) Depends on the height of the tower d) depends on wind velocity

Ans: d) depends on wind velocity

20) the most used nuclear fuel in the world is

a) plutonium-239 b) Uranium-235 C) Uranium-238 d) Thorium-232

Ans: b) Uranium- 235

21) What will generate when underground water comes in contact with the hot spot

a) Steam b) Ore c) Mercury d) None of the above

Ans: a) Steam

22) Expanded form of CNG is

a) Compressed Natural gas b) Common natural gas

c) Compressed national gas d) Controlled natural gas

Ans:- a) Compressed Natural Gas

23) Wind intensity can be described by

a) Avogadro number b) Reynolds number

c) Mach number d) Beaufort number

Ans: d) Beaufort number

24) Hydro power plants are located

a) Plane area b) Desert c) Hilly area d) none of the above

Ans: c) Hilly area

25) The optimum value of pH inside the digester for the biodegradation process

a) 2-3 b) 4.6- 4.8 c) 6.5 to 8 d) 9-10

Ans:- c) 6.5 to 8

26) Which of the following is not an example of bio- mass energy source?

a) coal b) gobar gas c) wood d) nuclear energy

Ans: d) nuclear energy

27) This is not an example for renewable energy

a) Solar energy b) wind energy c) Ocean energy d) natural gas

Ans: d) natural gas

28) The minimum temperature difference required between surface water at depth of upto 2km in an ocean thermal energy plant

a) 10°C b) 20°C c) 30°C d) 40°C

Ans:- b) 20°C

29) Tidal power plant consists of:

a) Power house b) dam or barrage

c) Sluice ways and gates d)all the above

Ans: d) all the above

30) The blades in wind turbines are connected to

a) string b) tower c) foundation d) nacelle

Ans- d) nacelle

31) What type of energy derived from heated ground water

a) Geothermal energy b) tidal energy

c) wind energy d) solar energy

Ans: a) geothermal energy

32) Good Source of energy should be

a)easily accessible b)easy to store and transport

c) be economical d)all the above

Ans: d) all the above

33)The largest Component of bio- gas is

a)butane b)methane c)Carbon di oxide d)Nitrogen

Ans: b) methane

34) Statement: charcoal is considered to be a better fuel than wood

Reasons:

i) charcoal has higher calorific value

Ii) charcoal is comparatively smoke less

iii)charcoal burns without flame

Which reason/s justify the statement

a) i b) ii c) ii & iii d) I,ii,iii

Ans: d) I,ii,iii

35) In a Hydro power plant:

a) Water is converted into steam to produce electricity

b) Electricity is extracted from water

c) Kinetic energy possessed by stored water is converted into potential energy

d) Potential energy possessed by stored water is converted into electricity

Ans: d) Potential energy possessed by stored water is converted into electricity

36) The disposal of wastes produced in a nuclear power plant is a big problem. Because

a) Highly inflammable b) highly reactive

c) Bad smell d) too light

Ans: b) highly radioactive

37) Constructing dams over rivers. It helps

a) to generate hydro electricity
c) to control floods over river
b)to irrigate agriculture land
d) all the above

Ans: d) all the above

38) Which of the following is more environment friendly

a)burning of kerosene
b) burning of coal
c) Burning if charcoal
d) burning of petrol

Ans: c) burning of charcoal

39) The inner wall of the solar cooker is painted black because

a) Prevents from rusting
b) reflects light
c) Absorbs more heat
d) none of the above

Ans: c) absorbs more heat

40) Gas which is present in both bio-gas and natural gas

a) methane b) sulphur dioxide c) Oxygen d) carbon monoxide

Ans: a) methane

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13. OUR ENVIRONMENT

1. Disposable plastics plates should not be used because ----------.

A. they are made up of light weight material
B. They are made of toxic materials
C. they are made up of biodegradable materials
D. they are made up of non biodegradable materials

Ans :D

2. Which of the following groups contain only biodegradable items?

A. grass, flowers, leather
C. fruit peels, cake and lime juice
B. grass, wood, plastics
D. cake, wood, grass

Ans :A,C and D

3. Which is incorrect:

A. all green plants and blue green algae are producers

B. green plants get their food from organic compounds
C. producers prepare food from inorganic substances
D. plants convert solar energy to chemical energy

Ans:B

4. The % of solar radiation absorbed by all green plants for photosynthesis is about ----------.

A. 1% B. 5% C. 8% D. 10%

Ans :A

5. The excessive exposure of humans to UV rays results in :

A. damage immune system
B. skin cancer
C. peptic ulcers
D. damage to lungs

Ans :B

6. The decomposers in ecosystem:

A. convert inorganic materials to simpler forms
B. convert organic material to inorganic forms
C. do not breakdown organic compounds
D. None

Ans :B

7. Which of the following are environment friendly practices?

A. carrying cloth bags to put purchases in while shopping
B. switching off unnecessary lights and fans
C. walking to school instead of getting your mother to drop you on her scooter
D. All

Ans :D

8. Accumulation of non-biodegradable pesticides in the food chain, in increasing amount at each higher trophic level is known as _____

A. Eutrophication
B. pollution
C. biomagnifications
D. Accumulation

Ans:C

9. Which of the following is biodegradable waste?

A. DDT
B. Aluminium can
C. Plastic bag
D. Cow dung

ANS: D

10. Which of the following is the best way for disposal of vegetable and fruit peels?

A. Landfill
B. Recycling
C. Composting
D. Burning

Answer: C

11. The problem caused due to ozone hole is

A. earthquakes
B. damage due to UV radiations
C. chemical pollution
D. acid rain

Answer:B

12. Organisms which synthesise carbohydrates from inorganic compounds using radiant energy are called

A. decomposers
B. producers
C. herbivores
D. carnivores

Answer:B

13.Excessive exposure of humans to UV-rays results in

(i) damage to immune system
(ii) damage to lungs
(iii) skin cancer
(iv) peptic ulcers

A. (i) and (ii) B.(ii) and (iv) C. (i) and (iii) D. (iii) and (iv)

Answer:C

14. When is the world environment day celebrated?

A.16 June B. 5 December C. 5 June D. 5 July

Answer:C

15. Which of these is a greenhouse gas?

A. Hydrogen sulphide B. Methane C. Ozone D. Carbon monoxide

Answer:B

16. Which of these organisms are the most important decomposers in an ecosystem?

A. Algae and fungi
B. Fungi and bacteria
C. Algae and bacteria
D. Bacteria and virus

Answer:B

17. Which of the following is a biodegradable substance?

A. Glass B. Plants C. Plastics D. Polythene

Ans: B.

18. _____ is not a biodegradable pollutant.

A. Paper B. Cotton cloth C. Cotton D. DDT

Ans: D. DDT

19. The formula of Ozone is _____

A. O_3 B. O_2 C. O_4 D. O_6

Ans: A. O_3

20. The number of atoms of oxygen present in ozone is

A. 3 B. 2 C. 5 D. 6

Ans: A. 3

21. Which of the following is non- biodegradable?

A. Wool B. Nylon C. Animal bones D. Tea leaves

Answer: B

22. Which one of the following will undergo fastest bio-degradation?

A. Mango seed B. Wood C. Mango peel D. Mango pulp

Answer:D

23. Acid rain is caused by the oxides of

A. Carbon B. nitrogen only C. sulphur only D. sulphur and nitrogen

Answer:D

24. Which of the following chemicals causes depletion of the ozone layer?

(a) Carbon tetrachloride (c) Chloro fluoro carbon

(b) Methane (d) Carbon monoxide

Answer:C

25.The materials that change slowly their form and nature are

A.Used tea leaves B. Peels of vegetables C. Waste papers D. Plants fibre

Ans: D. plant fibre

26. The correct statement with respect to biodegradable substances among the following is ; these substances

A. remain inert in the environment for a long time

B. harm various organisms in the ecosystem

C. increase the density of harmful chemicals in different tropic levels

D. undergo recycling naturally in the environment

ANS:D

27.Ozone layer is essential because it absorbs most of the

A.infrared radiations B.heat C.Solar radiations D.ultraviolet radiations

Ans:D

28.Which of the following is non biodegradable waste?

A.Cow dung B.Manure C.Plastic D.kitchen waste

Ans:C

29. We should reduce the use of the plastic bags, bottles etc. because:

(a) They are not durable (c) They are made of toxic materials

(b) They are non-biodegradable (d) They react with the atmospheric gases

Answer: (b) They are non-biodegradable

30. Among the following choose the correct option which contains only biodegradable items?

i. Wood, paper, PVC

ii. Paper, seeds, detergent,

iii. Paper, animal excreta, wood

iv. Wool, leaves, paper

(a) (i), (ii) and (iii)

(b) (i) and (iii)

(c) (ii), (iii) and (iv)

(d) (iii) and (iv)

Answer: (d) (iii) and (iv)

31. Which of the following may be a conclusion of the excessive exposure of humans to sun's ultraviolet rays?

i. Peptic ulcers

ii. Eye disease like cataract

iii. Damage to lungs

iv. Skin cancer

(a) (i) and (iv)

(b) (ii), (iii) and (iv)

(c) (ii) and (iv)

(d) Only (iv)

Answer: (c) (ii) and (iv)

32. Which among the following is a correct full form for DDT?

(a) Dichloro diphenyl tri chloro ethane

(b) Dichloro diphenyl tetra chloro ethane

(c) Dichloro deca phenyl tri chloro ethane

(d) Dichloro diethyl tri chloro ethane

Answer: (a) Dichloro di phenyl tri chloro ethane

33. Which of the following radiations is responsible for the conversion of atmospheric oxygen to ozone?

(a) Gamma radiations

(b) Cosmic radiations

(c) Infrared radiations

(d) Ultraviolet radiations

Answer: (d) Ultraviolet radiations

34. Which of the following substances will not be converted to compost when added in a composting pit?

(a) Waste paper

(b) Fruit and vegetable peels

(c) Human and animal excreta

(d) Plastic bags

Answer: (d) Plastic bags

35. Global warming is a phenomenon related to:

(a) Evaporation

(b) Ecological balance

(c) Greenhouse effect (d) Desertification

Answer: c

36. The constituents which do not form eco-system are

A. Biotic constituents C. Abiotic constituents
B. Plastic bags D. All of these

Ans :B

37.The functional unit of environment is

A. Ecosystem C. Carbon
B. Nitrogen D. Oxygen

Ans:A

38.Which of the following is an not example of abiotic factors?

A. Light C. Heat
B. Plants D. Temperature

Ans:B

39.An ecosystem includes

(a) all living organisms
(b) non-living objects
(c) both living organisms and non-living objects
(d) sometimes living organisms and sometimes non-living objects

Answer: (c)

40.In an ecosystem, the 10% of energy available for transfer from one trophic level to the next is in the form of

(a) heat energy (c) chemical energy
(b) light energy (d) mechanical energy

Answer: (c)

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14. SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES MULTIPLE CHOICE QUESTIONS

1. Which of the following is/ are not the consequence/consequences of building high-rise dams?

i. Loss of biodiversity
ii. Depletion of the natural habitats of wild animals
iii. Soil erosion leading to the infertility of land
iv. Fall in the groundwater level

Choose the correct option from the following:

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

Answers: (c) (iii) and (iv)

2. Which of the following activities will prove to be effective in preventing floods?

i. Removing the topsoil

ii. Afforestation
iii. Construction of dams
iv. Cutting of trees

Choose the correct option from the following:

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

Answer: (b) (ii) and (iii)

3. Which among the following was a message conveyed by the 'Chipko Movement'?

(a) To promote more and more developmental projects
(b) To involve the community in forest conservation efforts
(c) To ignore the forest conservation efforts in sake of development
(d) None of these

Answer: (b)

4. The quality of environment can be improved by-

(a) Deforestation
(b) Overuse of natural environment
(c) Erosion
(d) Conservation

Answer: (d)

5. Which among the following is an eco-friendly activity?

(a) Making use of automobiles
(b) Making use of poly bags for shopping
(c) Making use of dyes for colouring the clothes
(d) Making windmill to generate power for irrigation

Answer: (d)

6. Which of the following does not lead to the depletion of groundwater?

(a) Establishing thermal power plants
(b) Cultivation of high yielding varieties of crops
(c) Process of deforestation
(d) Process of afforestation

Answer: (d)

7. Government launched the 'Ganga Action Plan' (GAP) project in 1985. The main purpose of this project was to:

(a) Build new dams over the Ganga river
(b) Make its water pollution free
(c) Utilise the river water for irrigation purposes
(d) Promote the growth of water animals like fish, in the river

Answer: (b)

8. Which among the following factors help in confirming the contamination of river water?

i. Measurement of pH of river water
ii. Presence of chlorine in river water
iii. Existence of diverse life forms in river water
iv. Presence of coliform bacteria in river water

Choose the correct option from the following:

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

Answer: (a) (i) and (iv)

9. Among the following choose the correct option which includes acts related to the three R's strategy which can be useful for conserving our natural resources?

(a) Recycle, regenerate, reuse
(b) Reduce, regenerate, reuse
(c) Reduce, reuse, redistribute
(d) Reduce, recycle, reuse

Answer: (d)

10. Who started chipko andalon?

(a) A. K. Banerjee
(b) Amrita devi bisnoy
(c) Sundar lal Bahuguna
(d) Medha patkar

Answer: (c)

11. Sardar Sarovar Dam is situated on river:

(a) Ganga (b) Narmada (c) Yamuna (d) Godavari

Answer: (b)

12. Which among the following is a major programme that was started to replenish the damaged forests?

(a) Agriculture (b) Tissue culture (c) Silviculture (d) Horticulture

Answer: (c)

13. In our country, there are attempts to increase the height of several existing dams like Tehri and Almati dams across the Narmada. Choose the correct statements among the following that are a consequence of raising the height of dams

i. Terrestrial flora and fauna of the area is destroyed completely
ii. Dislocation of people and domestic animals living in the area
iii. Valuable agricultural land may be permanently lost
iv. It will generate permanent employment for people

Choose the correct option from the following:

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

Answer: (b) (i), (ii) and (iii)

14. Given below are a few statements related to biodiversity. Pick those that correctly describe the concept of biodiversity

i. Biodiversity refers to the different species of flora and fauna present in an area
ii. Biodiversity refers to only the flora of a given area
iii. Biodiversity is greater in a forest
iv. Biodiversity refers to the total number of individuals of a particular species living in an area

Choose the correct option from the following:

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

Answer: (c) (i) and (iii)

15. Which among the statements given below is incorrect?

(a) Sustainable development does not take into consideration the viewpoints of all stakeholders
(b) Sustainable development is a long planned and persistent development
(c) Economic development is linked to environmental development
(d) Sustainable development meets the current basic human needs along with preserving resources for future generations

Answer: (a)

16. Ancient water harvesting system of Karnataka is ----------

a) Khadin b) nadis c) kulhs d) kattas

Ans d) kattas

17. Large scale deforestation decrease

a) soil erosion b) rainfall c) Drought d) Global warming.

Ans b) Rainfall.

18. Now a days government has banned the use of polythene bags and is initiating to use paper bags because,

a) It is costly b) It is biodegradable c) It is non biodegradable d) It is lighter.

Ans b) it is biodegradable.

19. Bandharas and tals are the ancient water harvesting methods in

a) Madhya Pradesh b) Maharashtra c) Karnataka d) Kerala.

Ans b) Maharashtra.

20. The chipkomovement started from

a) Reni in Garhwal b) Arabari forest c) khejrali village d) village of Mandal.

Ans a) Reni in Garhwal.

21. By constructing khadin check dams in level terrains,

a) underground water level decreases
b) underground water level increases
c) vegetation in the nearby areas are destroyed due to excess moisture.
d) underground water gets polluted.

Ans: b) underground water level increases.

22. The scientific method to conserve soil and water is-----

a) Construction of dams b) Watershed management
c) Rainwater harvesting d) Afforestation

Ans b) Watershed management.

23. Sustainable management should be become mandatory as

a) Natural resources are limited
b) Natural resources lasts for a longer period
c) Future generation may not enjoy the benefits of natural resources
d) all the above.

Ans d) All the above.

24. Earthen pot with cracks can be used to grow plants. This is based on this 5R principle

a) Refuse b) Re use c) Re purpose d) Re cycling

Ans d) Re purpose

25. Bishnois community sacrificed their life for the protection of-------

a) Teak trees b) Sal forest c) khejri trees d) Sandalwood trees.

Ans c) Khejri trees.

26. A woman who fought for the protection of khejri trees.

a) Medhapatkar b) Amrita Devi Bishnoi.

C)SaalumaradaThimmakka. d) DurgaBanerjee .

Ans b) Amrita Devi Bishnoi

27.Which of the following is best method from environment point of view?

a. Reduce b. Recycle c. Reuse d. All of above

Ans:d

30. Water harvesting is a method which

a. Increase ground water level c. Has no relation with ground water

b. Not practiced in modern days d. Decrease ground water level

ans:A

31. The eco-friendly practice among the following

a) using plastic plates in weddings

b) bringing things in plastics covers

c) separating daily wastes into recyclable and decomposing materials

d) throwing plastic wastes in our surrounding

Answer:C

32.Stake holders of forest are

a) Nature enthusiasts

b) Local people

c) Industrial and forest department of government

d) all of these

Answer: d

33. The pH range most conducive for life of fresh water plants and animals is

a)6.5 to 7.5 b)2,5 to 3.5 c)5.5 to 6.5 d)1.5 to 2.5

ans: a)6.5 to 7.5

34. The concept of sustainable development encourages

a)growth that meet current basic needs

b)growth to meet the needs of present and future generations

c)massive economic development using natural resources

d)massive expansion of agriculture ,infrastructure and industries

ans: b)growth to meet the needs of present and future generations

35. The problem of construction of dams is

a)displace large number of peasants and tribals without proper rehabilitation

b)swallow up huge amount of public money

c.leads to deforestation and loss of biodiversity

d.All of the above

Ans:d

********** **THANK YOU** **********