TIRUVANNAMALAI DISTRICT - 2025

MUNICIPAL HIGH SCHOOL -GIRITHARAN PETTAI

10 TH- SCIENCE

PHYSICS – CHEMISTRY – (UNIT 1 – 11) **JO.VANITHA.M.Sc.,M.A.,M.Phil.,B.Ed.,**

Choose the correct answer

1) Inertia of a body depends on

a) weight of the object b) acceleration due to gravity of the planet

c) mass of the object d) Both a & b

2) Impulse is equals to

a) rate of change of momentum b) rate of force and time

c) change of momentum d) rate of change of mass

3) Newton's III law is applicable

a) for a body is at rest b) for a body in motion

c) both a & b d) only for bodies with equal masses

4) Plotting a graph for momentum on the Y-axis and time on X-axis. slope of momentum-time graph gives

a) Impulsive force b) Acceleration c) Force d) Rate of force

5) In which of the following sport the turning of effect of force used

a) swimming b) tennis c) cycling d) hockey

6) The unit of 'g' is m s-2. It can be also expressed as

a) cms-1 b) Nkg-1 c) Nm2kg-1 d) cm2s-2

7) One kilogram force equals to

a) 9.8 dyne b) 9.8 × 104 N c) 98 × 104 dyne d) 980 dyne

8) The mass of a body is measured on planet Earth as M kg. When it is taken to a planet of radius half that of the Earth then its value will be____kg

a) 4 M b) 2M c) M/4 d) M

9) If the Earth shrinks to 50% of its real radius its mass remaining the same, the weight of a body on the Earth will

a) decrease by 50% b) increase by 50% c) decrease by 25% d) increase by 300%

10) To project the rockets which of the following principle(s) is /(are) required?

a) Newton's third law of motion b) Newton's law of gravitation

c) law of conservation of linear momentum d) both a and c

11) The refractive index of four substances A, B, C and D are 1.31, 1.43, 1.33, 2.4 respectively. The speed of light is maximum in a) A b) B c) C d) D

12) Where should an object be placed so that a real and inverted image of same size is obtained by a convex lens a) f b) 2f c) infinity d) between f and 2f

13) A small bulb is placed at the principal focus of a convex lens. When the bulb is switched on, the lens will produce

a) a convergent beam of light b) a divergent beam of light

c) a parallel beam of light d) a coloured beam of light

14) Magnification of a convex lens is

a) Positive b) negative c) either positive or negative d) zero

15) A convex lens forms a real, diminished point sized image at focus. Then the position of the object is

a) focus b) infinity c) at 2f d) between f and 2f

16) Power of a lens is –4D, then its focal length is

a) 4m b) –40m c) –0.25 m d) –2.5 m

17) In a myopic eye, the image of the object is formed

a) behind the retina b) on the retina c) in front of the retina d) on the blind spot

18) The eye defect 'presbyopia' can be corrected by

a) convex lens b) concave lens c) convex mirror d) Bi focal lenses

19) Which of the following lens would you prefer to use while reading small letters found in a dictionary?

a) A convex lens of focal length 5 cm b) A concave lens of focal length 5 cm

c) A convex lens of focal length 10 cm d) A concave lens of focal length 10 cm

20) If VB, VG, VR be the velocity of blue, green and red light respectively in a glass prism, then which of the following statement gives the correct relation?

a) VB = VG = VR b) VB > VG >VR c) VB < VG < VR d) VB < VG > VR

21) The value of universal gas constant

a) 3.81 Jmol–1 K–1 b) 8.03 Jmol–1 K–1 c) 1.38 Jmol–1 K–1 d) 8.31 Jmol–1 K–1

22) If a substance is heated or cooled, the change in mass of that substance is

a) positive b) negative c) zero d) none of the above

23) If a substance is heated or cooled, the linear expansion occurs along the axis of

a) X or –X b) Y or –Y c) both (a) and (b) d) (a) or (b)

24) Temperature is the average _____ of the molecules of a substance

a) difference in K.E and P.E b) sum of P.E and K.E

c) difference in T.E and P.E d) difference in K.E and T.E

25) In the Given diagram, the possible direction of heat energy transformation is

a) A ← B, A ← C,B ← C

b) A → B, A → C,B → C

c) A → B, A ← C,B → C

d) A ← B, A → C,B ← C

26) Which of the following is correct?

a) Rate of change of charge is electrical power. b) Rate of change of charge is current.

c) Rate of change of energy is current. d) Rate of change of current is charge.

27) SI unit of resistance is

a) mho b) joule c) ohm d) ohm meter

28) In a simple circuit, why does the bulb glow when you close the switch?

a) The switch produces electricity. b) Closing the switch completes the circuit.

c) Closing the switch breaks the circuit. d) The bulb is getting charged.

29) Kilowatt hour is the unit of

a) resistivity b) conductivity c) electrical energy d) electrical power

30) When a sound wave travels through air, the air particles

a) vibrate along the direction of the wave motion b) vibrate but not in any fixed direction

c) vibrate perpendicular to the direction of the wave motion d) do not vibrate

31) Velocity of sound in a gaseous medium is 330 ms–1. If the pressure is increased by 4 times without causing a change in the temperature, the velocity of sound in the gas is

a) 330 ms–1 b) 660 ms1 c) 156 ms–1 d) 990 ms–1

32) The frequency, which is audible to the human ear is

a) 50 kHz b) 20 kHz c) 15000 kHz d) 10000 kHz

33) The velocity of sound in air at a particular temperature is 330 ms–1. What will be its value when temperature is doubled and the pressure is halved?

a) 330 ms–1 b) 165 ms–1 c) 330 × √2 ms–1 d) 320 / √ 2 ms–1

34) If a sound wave travels with a frequency of 1.25 × 104 Hz at 344 ms–1, the wavelength will

a) 27.52 m b) 275.2 m c) 0.02752 m d) 2.752 m

35) The sound waves are reflected from an obstacle into the same medium from which they were incident. Which of the following changes?

a) speed b) frequency c) wavelength d) none of these

36) Velocity of sound in the atmosphere of a planet is 500 ms–1. The minimum distance between the sources of sound and the obstacle to hear the echo, should be

a) 17 m b) 20 m c) 25 m d) 50 m

37)Man-made radioactivity is also known as _____

a. Induced radioactivity b. Spontaneous radioactivity c. Artificial radioactivity d. a & c

38)Unit of radioactivity is _____

a. roentgen b. curie c. becquerel d. all the above

39)Artificial radioactivity was discovered by _____

a. Bequerel b. Irene Curie c. Roentgen d. Neils Bohr

40)In which of the following, no change in mass number of the daughter nuclei takes place

i) α decay ii) β decay iii) γ decay iv) neutron decay

a. (i) is correct b. (ii) and (iii) are correct c. (i) & (iv) are correct d. (ii) & (iv) are correct

41)_____ isotope is used for the treatment of cancer.

a. Radio Iodine b. Radio Cobalt c. Radio Carbon d. Radio Nickel

42)Gamma radiations are dangerous because

a. it affects eyes & bones b. it affects tissues

c. it produces genetic disorder d. it produces enormous amount of heat

43)_____ aprons are used to protect us from gamma radiations

a. Lead oxide b. Iron c. Lead d. Aluminium

44)Which of the following statements is/are correct?

i. α particles are photons ii. Penetrating power of γ radiation is very low

iii. Ionization power is maximum for α rays iv. Penetrating power of γ radiation is very high

a. (i) & (ii) are correct b. (ii) & (iii) are correct c. (iv) only correct d. (iii) & (iv) are correct

45)Proton - Proton chain reaction is an example of _____

a. Nuclear fission b. α – decay c. Nuclear fusion d. β - decay

46)In the nuclear reaction 6X12 α decay ZYA, the value of A & Z.

a. 8, 6 b. 8, 4 c. 4, 8 d. cannot be determined with the given data

47)Kamini reactor is located at _____

a. Kalpakkam b. Koodankulam c. Mumbai d. Rajasthan

48)Which of the following is/are correct?

i. Chain reaction takes place in a nuclear reactor and an atomic bomb.

ii. The chain reaction in a nuclear reactor is controlled

iii. The chain reaction in a nuclear reactor is not controlled

iv. No chain reaction takes place in an atom bomb

a. (i) only correct b. (i) & (ii) are correct c. (iv) only correct d. (iii) & (iv) are correct

49)Which of the following has the smallest mass?

a. 6.023 × 1023 atoms of He b. 1 atom of He c. 2 g of He d. 1 mole atoms of He

50)Which of the following is a triatomic molecule?

a. Glucose b. Helium c. Carbon dioxide d. Hydrogen

51)The volume occupied by 4.4 g of CO_2 at S.T.P

a. 22.4 litre b. 2.24 litre c. 0.2 4 litre d. 0.1 litre

52)Mass of 1 mole of Nitrogen atom is

a. 28 amu b. 14 amu c. 28 g d. 14 g

53)Which of the following represents 1 amu?

a. Mass of a C – 12 atom b. Mass of a hydrogen atom

c. 1/12th of the mass of a C – 12 atom d. Mass of O – 16 atom

54)Which of the following statement is incorrect?

a. 12 gram of C – 12 contains Avogadro's number of atoms.

b. One mole of oxygen gas contains Avogadro's number of molecules.

c. One mole of hydrogen gas contains Avogadro's number of atoms.

d. One mole of electrons stands for 6.023 × 1023 electrons.

55)The volume occupied by 1 mole of a diatomic gas at S.T.P is

a. 11.2 litre b. 5.6 litre c. 22.4 litre d. 44.8 litre

56)In the nucleus of 20Ca40, there are

a. 20 protons and 40 neutrons b. 20 protons and 20 neutrons

c. 20 protons and 40 electrons d. 40 protons and 20 electrons

57)The gram molecular mass of oxygen molecule is

a. 16 g b. 18 g c. 32 g d. 17 g

58)1 mole of any substance contains ____ molecules.

a. 6.023 × 1023 b. 6.023 × 10-23 c. 3.0115 × 1023 d. 12.046 × 1023

59)The number of periods and groups in the periodic table are_____.

a) 6,16 b) 7,17 c) 8,18 d) 7,18

60)The basis of modern periodic law is_____.

a) atomic number b) atomic mass c) isotopic mass d) number of neutrons

61)_____ group contains the member of halogen family.

a) 17th b) 15^{th} c) 18th d) 16th

62)_____ is a relative periodic property

a) atomic radii b) ionic radii c) electron affinity d) electronegativity

63)Chemical formula of rust is _____.

a) FeO.xH2O b) FeO4.xH2O c) Fe2O3.xH2O d) FeO

64)In the alumino thermic process the role of Al is _____.

a) oxidizing agent b) reducing agent c) hydrogenating agent d) sulphurising agent

65)The process of coating the surface of metal with a thin layer of zinc is called_____.

a) painting b) thinning c) galvanization d) electroplating

66)Which of the following have inert gases 2 electrons in the outermost shell.

a) He b) Ne c) Ar d) Kr

67)Neon shows zero electron affinity due to _____.

a) stable arrangement of neutrons b) stable configuration of electrons

c) reduced size d) increased density

68)_____ is an important metal to form amalgam.

a) Ag b) Hg c) Mg d) Al

69)A solution is a _____ mixture

a. homogeneous b. heterogeneous

c. homogeneous and heterogeneous d. non homogeneous

70) The number of components in a binary solution is _____

a. 2 b. 3 c. 4 d. 5

71) Which of the following is the universal solvent?

a. Acetone b. Benzene c. Water d. Alcohol

72) A solution in which no more solute can be dissolved in a definite amount of solvent at a given temperature is called _____

a. Saturated solution b. Un saturated solution c. Super saturated solution d. Dilute solution

73) Identify the non aqueous solution.

a. sodium chloride in water b. glucose in water

c. copper sulphate in water d. sulphur in carbon-di-sulphide

74) When pressure is increased at constant temperature the solubility of gases in liquid _____. a. No change b. increases c. decreases d. no reaction

75) Solubility of NaCl in 100 ml water is 36 g. If 25 g of salt is dissolved in 100 ml of water how much more salt is required for saturation _____.

a. 12g b. 11g c. 16g d. 20g

76) A 25% alcohol solution means

a. 25 ml alcohol in 100 ml of water b. 25 ml alcohol in 25 ml of water

c. 25 ml alcohol in 75 ml of water d. 75 ml alcohol in 25 ml of water

77) Deliquescence is due to _____

a. Strong affinity to water b. Less affinity to water

c. Strong hatred to water d. Inertness to water

78)Which of the following is hygroscopic in nature?

a. ferric chloride b. copper sulphate penta hydrate c. silica gel d. none of the above

79)$H_2(g) + Cl_29(g) \rightarrow 2HCl(g)$ is a

a. Decomposition Reaction b. Combination Reaction

c. Single Displacement Reaction d. Double Displacement Reaction

80)Photolysis is a decomposition reaction caused by _____

a. heat b. electricity c. light d. mechanical energy

81)A reaction between carbon and oxygen is represented by $C(s) + O_2(g) \rightarrow CO_2(g)$ + Heat. In which of the type(s), the above reaction can be classified?

(i) Combination Reaction (ii) Combustion Reaction

(iii) Decomposition Reaction (iv) Irreversible Reaction

a. i and ii b. i and iv c. i, ii and iii d. i, ii and iv

82)The chemical equation

$Na_2SO_4(aq) + BaCl_2(aq) \rightarrow BaSO_4(s)\downarrow + 2NaCl(aq)$

represents which of the following types of reaction?

a. Neutralisation b. Combustion c. Precipitation d. Single displacement

83)Which of the following statements are correct about a chemical equilibrium?

(i) It is dynamic in nature

(ii) The rate of the forward and backward reactions are equal at equilibrium

(iii) Irreversible reactions do not attain chemical equilibrium

(iv) The concentration of reactants and products may be different

a. i, ii and iii b. i, ii and iv c. ii, iii and iv d. i, iii and iv

84)A single displacement reaction is represented by X(s) + 2HCl(aq) → XCl2(aq) + H2(g). Which of the following(s) could be X.

(i) Zn (ii) Ag (iii) Cu (iv) Mg.

Choose the best pair. a. i and ii b. ii and iii c. iii and iv d. i and iv

85)Which of the following is not an

"element + element → compound" type reaction?

a. C(s) + O2(g) → CO2(g) b. 2K(s) + Br2(l) → 2KBr(s)

c. 2CO(g) + O2(g) → 2CO2(g) d. 4Fe(s) + 3O2(g) → 2Fe2O3(s)

86)Which of the following represents a precipitation reaction?

a. A(s) + B(s) → C(s) + D(s) b. A(s) + B(aq) → C(aq) + D(*l*)

c. A(aq) + B(aq) → C(s) + D(aq) d. A(aq) + B(s) → C(aq) + D(*l*)

87)The pH of a solution is 3. Its [OH–] concentration is

a. 1 × 10–3 M b. 3 M c. 1 × 10–11 M d. 11 M

88)Powdered CaCO3 reacts more rapidly than flaky CaCO3 because of _____.

a. large surface area b. high pressure c. high concentration d. high temperature

89)The molecular formula of an open chain organic compound is C3H6. The class of the compound is

a. alkane b. alkene c. alkyne d. alcohol

90)The IUPAC name of an organic compound is 3-Methyl butan-1-ol. What type compound it is?

a. Aldehyde b. Carboxylic acid c. Ketone d. Alcohol

91)The secondary suffix used in IUPAC nomenclature of an aldehyde is ____

a. – ol b. – oic acid c. - al d. - one

92)Which of the following pairs can be the successive members of a homologous series?

a. C3H8 and C4H10 b. C2H2 and C2H4 c. CH4 and C3H6 d. C2H5OH and C4H8OH

93)C2H5OH + 3O2 → 2CO2 + 3H2O is a

a. Reduction of ethanol b. Combustion of ethanol

c. Oxidation of ethanoic acid d. Oxidation of ethanal

94)Rectified spirit is an aqueous solution which contains about _____ of ethanol

a. 95.5 % b. 75.5 % c. 55.5 % d. 45.5 %

95)Which of the following are used as anaesthetics?

a. Carboxylic acids b. Ethers c. Esters d. Aldehydes

96)TFM in soaps represents _____ content in soap

a. mineral b. vitamin c. fatty acid d. carbohydrate

97)Which of the following statements is wrong about detergents?

a. It is a sodium salt of long chain fatty acids b. It is sodium salts of sulphonic acids

c. The ionic part in a detergent is $–SO_3–Na^+$ d. It is effective even in hard water.

BIOLOGY – (UNIT 12-23) **JO.VANITHA.M.Sc.,M.A.,M.Phil.,B.Ed.,**

Choose the correct answer

1)Casparian strips are present in the _____ of the root.

a) cortex b) pith c) pericycle d) endodermis

2)The endarch condition is the characteristic feature of

a) root b) stem c) leaves d) flower

3)The xylem and phloem arranged side by side on same radius is called _____

a) radial b) amphivasal c) conjoint d) None of these

4)Which is formed during anaerobic respiration

a) Carbohydrate b) Ethyl alcohol c)Acetyl CoA d) Pyruvate

5)Kreb's cycle takes place in

a)chloroplast b)mitochondrial matrix c)stomata d)inner mitochondrial membrane

6)Oxygen is produced at what point during photosynthesis ?

a)when ATP is converted to AD b)when CO_2 is fixed c)when H_2O is splitted d)All of these

7) In leech locomotion is performed by

a) Anterior sucker b) Parapodia c) Setae d) Contraction and relaxation of muscles

8) The segments of leech are known as

a) Metameres (somites) b) Proglottids c) Strobila d) All the above

9) Pharyngeal ganglion in leech is a part of

a) Excretory system b) Nervous system c) Reproductive system d) Respiratory system

10)The brain of leech lies above the

a) Mouth b) Buccal Cavity c) Pharynx d) Crop

11)The body of leech has

a) 23 segments b) 33 segments c) 38 segments d) 30 segments

12) Mammals are _____ animals.

a) Cold blooded b) Warm blooded c) Poikilothermic d) All the above

13)Active transport involves

a) movement of molecules from lower to higher concentration b) expenditure of energy

c) it is an uphill task d) all of the above

14) Water which is absorbed by roots is transported to aerial parts of the plant through

a) cortex b) epidermis c) phloem d) xylem

15) During transpiration there is loss of

a) carbon dioxide b) oxygen c) water d) none of the above

16)Root hairs are

a) cortical cell b) projection of epidermal cell c) unicellular d) both b and c

17)Which of the following process requires energy?

a) active transport b) diffusion c) osmosis d) all of them

18) The wall of human heart is made of

a) Endocardium b) Epicardium c) Myocardium d) All of the above

19) Which is the correct sequence of blood flow

a) ventricle atrium vein arteries b) atrium ventricle veins arteries

c) atrium ventricle arteries vein d) ventricles vein atrium arteries

20) A patient with blood group **O** was injured in an accident and has blood loss. Which group of blood should be used by doctor for transfusion?

a) O group b) AB group c) A or B group d) all blood group

21) **'Heart of hart'** is called

a) SA node b) AV node c) Purkinje fibres d) Bundle of His

22) Which one of the following shows correct composition of blood

a) Plasma - Blood + Lymphocyte b) Serum - Blood + Fibrinogen

c) Lymph - Plasma + RBC + WBC d) Blood - Plasma + RBC+ WBC +Platelets

23) Bipolar neurons are found in

(a) retina of eye (b) cerebral cortex (c) embryo (d) respiratory epithelium

24)Site for processing of vision, hearing, memory, speech, intelligence and thought is

(a) kidney (b) ear (c) brain (d) lungs

25)In reflex action, the reflex arc is formed by

(a) brain, spinal cord, muscle (b) receptor, muscle, spinal cord

(c) muscle, receptor, brain (d) receptor, spinal cord, muscle

26) Dendrites transmit impulse cell body and axon transmit impulse cell body.

(a) away from, away from (b) towards, away from

(c) towards,towards (d) away from, towards

27)The outer most of the three cranial meninges is

(a) arachnoid membrane (b) piamater (c) duramater (d) myelin sheath

28) There are pairs of cranial nerves and pairs of spinal nerves.

(a) 12, 31 (b) 31, 12 (c) 12, 13 (d) 12, 21

29)The neurons which carries impulse from the central nervous system to the muscle fibre.

(a) afferent neurons (b) association neuron (c) efferent neuron (d) unipolar neuron

30) Which nervous band connects the two cerebral hemispheres of brain?

(a) thalamus (b) hypothalamus (c) corpus callosum (d) pons

31)Node of Ranvier is found in

(a) muscle (b) axons (c) dendrites (d) cyton

32)Vomiting centre is located in

(a) medulla oblongata (b) stomach (c) cerebrum (d) hypothalamus

33) Nerve cells do not possess

(a) neurilemma (b) sarcolemma (c) axon (d) dendrites

34)A person who met with an accident lost control of body temperature, water balance, and hunger. Which of the following part of brain is supposed to be damaged?

(a) Medulla oblongata (b) cerebrum (c) pons (d) hypothalamus

35) Gibberellins cause:

a) Shortening of genetically tall plants b) Elongation of dwarf plants

c) Promotion of rooting d) Yellowing of young leaves

36)The hormone which has positive effect on apical dominance is:

a) Cytokinin b) Auxin c) Gibberellin d) Ethylene

37)Which one of the following hormones is naturally not found in plants:

a) 2, 4-D b) GA3 c) Gibberellin d) IAA

38)Avena coleoptile test was conducted by

a) Darwin b) N. Smit c) Paal d) F.W. Went

39)LH is secreted by

a) Adrenal gland b) Thyroid gland c) Anterior pituitary d) Hypothalamus.

40) Identify the exocrine gland

a) Pituitary gland b) Adrenal gland c) Salivary gland d) Thyroid gland

41) Which organ acts as both exocrine gland as well as endocrine gland

a) Pancreas b) Kidney c) Liver d) Lungs

42)Which one is referred as “Master Gland”?

a) Pineal gland b) Pituitary gland c) Thyroid gland d) Adrenal gland

43) The plant which propagates with the help of its leaves is _____ .

a) Onion b) Neem c) Ginger d) *Bryophyllum*

44)Asexual reproduction takes place through budding in _____ .

a) *Amoeba* b) Yeast c) *Plasmodium* d) Bacteria

45) Syngamy results in the formation of _____ .

a) Zoospores b) Conidia c) Zygote d) Chlamydospores

46) The essential parts of a flower are _____ .

a) Calyx and Corolla b) Calyx and Androecium

c) Corolla and Gynoecium d) Androecium and Gynoecium

47)Anemophilous flowers have _____ .

a) Sessile stigma b) Small smooth stigma c) Colored flower d) Large feathery stigma

48) Male gametes in angiosperms are formed by the division of _____ .

a) Generative cell b) Vegetative cell c) Microspore mother cell d) Microspore

49)What is true of gametes?

a) They are diploid b) They give rise to gonads

c) They produce hormones d) They are formed from gonads

50) A single highly coiled tube where sperms are stored, get concentrated and mature is known
a) Epididymis b) Vasa efferentia c) Vas deferens d) Seminiferous tubules
51) The large elongated cells that provide nutrition to developing sperms are
a) Primary germ cells b) Sertoli cells c) Leydig cells d) Spermatogonia
52)Estrogen is secreted by
a) Anterior pituitary b) Primary follicle c) Graffian follicle d) Corpus luteum
53) Which one of the following is an IUCD?
a) Copper – T b) Oral pills c) Diaphragm d) Tubectomy
54)According to Mendel alleles have the following character
a) Pair of genes b) Responsible for character c) Production of gametes d) Recessive factors
55)9 : 3 : 3 : 1 ratio is due to
a) Segregation b) Crossing over c) Independent assortment d) Recessiveness
56)The region of the chromosome where the spindle fibres get attached during cell division
a) Chromomere b) Centrosome c) Centromere d) Chromonema
57) The centromere is found at the centre of the _____ chromosome.
a) Telocentric b) Metacentric c) Sub-metacentric d) Acrocentric
58) The _____ units form the backbone of the DNA.
a) 5 carbon sugar b) Phosphate c) Nitrogenous bases d) Sugar phosphate
59)Okasaki fragments are joined together by _____.
a) Helicase b) DNA polymerase c) RNA primer d) DNA ligase
60) The number of chromosomes found in human beings are _____.
a) 22 pairs of autosomes and 1 pair of allosomes. b) 22 autosomes and 1 allosome
c) 46 autosomes d) 46 pairs autosomes and 1 pair of allosomes.
61)The loss of one or more chromosome in a ploidy is called _____.
a) Tetraploidy b) Aneuploidy c) Euploidy d) polyploidy
62) Biogenetic law states that _____
a. Ontogeny and phylogeny go together
b. Ontogeny recapitulates phylogeny
c. Phylogeny recapitulates ontogeny
d. There is no relationship between phylogeny and ontogeny
63) The 'use and disuse theory' was proposed by _____.
a. Charles Darwin b. Ernst Haeckel c. Jean Baptiste Lamarck d. Gregor Mendel
64)Paleontologists deal with
a. Embryological evidences b. Fossil evidences c. Vestigial organ evidences d. All the above
65)The best way of direct dating fossils of recent origin is by
a. Radio-carbon method b. Uranium lead method
c. Potassium-argon method d. Both (a) and (c)

66) The term Ethnobotany was coined by

a. Khorana b. J.W. Harsbberger c. Ronald Ross d. Hugo de Vries

67)Which method of crop improvement can be practised by a farmer if he is inexperienced?

a. clonal selection b. mass selection c. pureline selection d. hybridisation

68)Pusa Komal is a disease resistant variety of _____.

a. sugarcane b. rice c. cow pea d. maize

69)Himgiri developed by hybridisation and selection for disease resistance against rust pathogens is a variety of _____.

a. chilli b. maize c. sugarcane d. wheat

70)**The miracle rice** which saved millions of lives and celebrated its 50th birthday is _____

a. IR 8 b. IR 24 c. Atomita 2 d. Ponni

71)Which of the following is used to produce products useful to humans by biotechnology techniques?

a. enzyme from organism b. live organism c. vitamins d. both (a) and (b)

72)We can cut the DNA with the help of

a. scissors b. restriction endonucleases c. knife d. RNAase

73)rDNA is a

a. vector DNA b. circular DNA

c. recombinant of vector DNA and desired DNA d. satellite DNA

74)DNA fingerprinting is based on the principle of identifying ---------- sequences of DNA

a. single stranded b. mutated c. polymorphic d. repetitive

75)Organisms with modified endogenous gene or a foregin gene are also known as

(a) transgenic organsims (b) genetically modified (c) mutated (d) both a and b

76) In a hexaploid wheat(2n = 6 x = 42) the haploid (n) and the basic(x) number of chromosomes respectively are

a. n = 7 and x = 21 b. n = 21 and x = 21 c. n = 7 and x = 7 d. n = 21 and x = 7

77)Tobacco consumption is known to stimulate secretion of adrenaline. The component causing this could be

a) Nicotine b) Tannic acid c) Curcumin d) Leptin

78)World 'No Tobacco Day' is observed on

a) May 31 b) June 6 c) April 22 d) October 2

79)Cancer cells are more easily damaged by radiations than normal cells because they are

a) Different in structure b) Non-dividing c) Mutated Cells d) Undergoing rapid division

80)Which type of cancer affects lymph nodes and spleen?

a) Carcinoma b) Sarcoma c) Leukemia d) Lymphoma

81) Excessive consumption of alcohol leads to

a) Loss of memory b) Cirrhosis of liver

c) State of hallucination d) Supression of brain function

82)Coronary heart disease is due to

a) *Streptococci* bacteria b) Inflammation of pericardium

c) Weakening of heart valves d) Insufficient blood supply to heart muscles

83)Cancer of the epithelial cells is called

a) Leukemia b) Sarcoma c) Carcinoma d) Lipoma

84)Metastasis is associated with

a) Malignant tumour b) Benign tumour c) Both (a) and (b) d) Crown gall tumour

85)Polyphagia is a condition seen in

a) Obesity b) Diabetes mellitus c) Diabetes insipidus d) AIDS

86) Where does alcohol effect immediately after drinking?

a) Eyes b) Auditory region c) Liver d) Central nervous system

87)Which of the following is / are a fossil fuel? i. Tar ii. Coal iii. Petroleum

a) i only b) i and ii c) ii and iii d) i, ii and iii

88)What are the steps will you adopt for better waste management?

a) reduce the amount of waste formed b) reuse the waste

c) recycle the waste d) all of the above

89)The gas released from vehicles exhaust are i. carbon monoxide ii. Sulphur dioxide iii. Oxides of nitrogen

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

90)Soil erosion can be prevented by

a) deforestation b) afforestion c) over growing d) removal of vegetation

91)A renewable source of energy is

a) petroleum b) coal c) nuclear fuel d) trees

92)Soil erosion is more where there is

a) no rain fall b) low rainfall c) rain fall is high d) none of these

93)An inexhaustible resources is

a) wind power b) soil fertility c) wild life d) all of the above

94)Common energy source in village is

a) electricity b) coal c) biogas d) wood and animal dung

95)Green house effect refers to

a) cooling of earth b) trapping of UV rays c) cultivation of plants d) warming of earth

96)A cheap, conventional, commercial and inexhaustible source of energy is

a) hydropower b) solar energy c) wind energy d) thermal energy

97)Global warming will cause

a) raise in level of oceans b) melting of glaciers c) sinking of islands d) all of these

98)Which of the following statement is wrong with respect to wind energy

a) wind energy is a renewable energy

b) the blades of wind mill are operated with the help of electric motor

c) production of wind energy is pollution free

d) usage of wind energy can reduce the consumption of fossil fuels

99)Which software is used to create animation ?

a) Paint b) PDF c) MS Word d) Scratch

100)All files are stored in the _____

a) Folder b) box c) Pai d) scanner

101)Which is used to build scripts?

a) Script area b) Block palette c) stage d) sprite

102)Which is used to edit programs?

a) Inkscape b) script editor c) stage d) sprite

103)Where you will create category of blocks?

a) Block palette b) Block menu c) Script area d) sprite

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ANSWER KEY -PHYSICS & CHEMISTRY

1. c . mass of the object
2. c. change of momentum
3. c. Both a & b
4. c.Forc
5. c.Cycling
6. b.Nkg^{-1}
7. c.98×10^4 dyne
8. d.M
9. d.Increase by 300%
10. d.Both a and c
11. a. A
12. b. 2f
13. c. Parallel beam of light
14. c. either positive or negative
15. b. Infinity
16. c.-0.25m
17. c. In front of the retina
18. d. Bi focal lenses
19. a. A convex lens of focal length 5 cm
20. c.$V_B<V_G<V_R$
21. d. 8.31 mol^{-1} K^{-1}
22. c. Zero
23. c. Both a and b
24. c.Difference in TE and PE
25. a.A← B,A←C, B←
26. b. Rate of change of charge is current
27. c. ohm
28. b. Closing the switch complete the circuit
29. c. Electrical energy
30. a. vibrate along the direction of the wave motion
31. a. $330ms^{-1}$
32. b. 20KHz
33. c. $330\times \sqrt{2} ms^{-1}$
34. c. 0.02752m
35. d. None of these
36. c. 25m
37. d. a & c
38. d. all the above
39. b. Irene curie
40. b. (ii) and (iii) are correct
41. b. Radio Cobalt
42. c. It produces genetic disorder
43. c. Lead
44. d. (iii) and (iv) are correct
45. c. Nuclear fusion
46. b. 8,4
47. a. Kalpakkam
48. b. (i) & (ii) are correct

49. c. 2g of He
50. c. Carbon dioxide
51. b. 2.24 litre
52. d. 14g
53. c. 1/12th of the mass of a C-12 atom
54. c. One mole of hydrogen gas contains Avogadro's number of atoms
55. c. 22.4 litre
56. b. 20 protons and 20 neutrons
57. a. 16g
58. a. 6.023×10^{23}
59. d 7,18
60. a. atomic number
61. a. 17^{th}
62. d. Electro negativity
63. c. $Fe_2O_3\times H_2O$
64. b. Reducing agent
65. c. Galvanization
66. a. He
67. b. Stable configuration of electrons
68. b. Hg
69. a. Homogeneous
70. a. 2
71. c. Water
72. a. Saturated solution
73. d. Sulphur in carbon di sulphide
74. b. Increases
75. b. 11g
76. c. 25 ml alcohol in 75 ml of water
77. a. Strong affinity to water
78. c. Silica Gel
79. b. Combination reaction
80. c. Light
81. d. i, ii and iv
82. c. Precipitation
83. a. i, ii and iii
84. d. i and iv
85. c. $2CO_{(g)} + O_{(g)} \rightarrow 2CO_{2(g)}$
86. c. $A_{(aq)}+B_{(aq)} \rightarrow C_{(s)}+D_{(aq)}$
87. c. $1\times10^{-11}M$
88. a. Large surface area
89. b. alkane
90. d. Alcohol
91. c. - al
92. a. C_3H_8 and C_4H_{10}
93. b. Conbusion of ethanol
94. a. 95.5%
95. b. Ethers
96. c. Fatty acid
97. a. It is a sodium salt of long chain fatty acid

ANSWER KEY - BIOLOGY

JO.VANITHA M.Sc.,M.A.,M.Phil.,B.Ed.,

1. d. Endodermis
2. b. Stem
3. c. Conjoint
4. b. Ethyl alcohol
5. b. Mitochondrial matrix
6. c. When H_2O is splitted
7. d. Contraction and relaxation of muscles
8. a. Metameres (somites)
9. b. Nervous system
10. c. Pharynx
11. b. 33 segments
12. b. Warm blooded
13. d. All the above
14. d. Xylem
15. c. Water
16. d. Both b and c
17. a. Active transport
18. d. All the above
19. c. Atrium - ventricle – arteries - vein
20. a. O group
21. a. SA node
22. d. Blood - plasma+ RBC+ WBC +platelets
23. a. Retina of eye
24. c. Brain
25. d. Receptor,spinal cord, muscle
26. b. Towards away from
27. c. duramater
28. a. 12,31
29. c. Efferent neuron
30. c. Corpus Callosum
31. b. Axons
32. a. Medulla oblongata
33. b. Sarcolemma
34. d. Hypothalamus
35. b. Elantation of dwarf plants
36. b. Auxin
37. a. 2,4-D
38. d. F.W.Went
39. c. Anterior pitutary
40. c. Salivary gland
41. a. Pancreas
42. b. Pitutory gland
43. d. Bryophyllum
44. B. Yeast
45. c. Zygote
46. d. Androecium and gynoecium
47. d. Large feathery Stigma
48. a. Generative cell
49. d.They are formed from gonads
50. a. Epididymis

51. b. Sertoli cells
52. c. Grafian follicle
53. a. Copper -T
54. b. Responsible for character
55. c. Independent assortment
56. c. Centromere
57. b. Metacentric
58. d. Sugar phosphate
59. d. DNA ligase
60. a. 22 pairs of autosomes and 1 pair of allow songs
61. b. Aneuploidy
62. b. Ontogeny recapitulates phylogeny
63. c. Jean Baptiste Lamarck
64. b. Fossil evidences
65. a. Radio-carbon method
66. b. J. W. Harshberger
67. b. Mass selection
68. c. Cow pea
69. d. Wheat
70. a. IR 8
71. d. Both a and b
72. b. Restriction endonucleases
73. c. Recombinant of vector DNA and desired DNA
74. d. Repetitive
75. d. Both a and b
76. d. n =21 and x=7
77. a. Nicotine
78. a. May 31
79. d. Undergoing rapid division
80. d. Lymphoma
81. b. Cirrhosis of liver
82. d. Insufficient blood supply to heart muscles
83. c. Carcinoma
84. a. Malignant tumour
85. b. Diabetes mellitus
86. d. Central nervous system
87. c. ii and iii
88. d. All of the above
89. d. i, ii and iii
90. b. Afforestation
91. d. Trees
92. c. Rain fall is high
93. a. Wind power
94. d. Wood and animal dung
95. d. Warming of earth
96. c. Wind energy
97. d. All of these
98. b. The Blades of windmill are operated with the help of electric motor
99. d. Scratch
100. a. Folder
101. a. Script area
102. b.Script editor
103. a. Block palette