PHYSICS

BOOKS - FULL MARKS PHYSICS (TAMIL ENGLISH)

SAMPLE PAPER - 1

Part I

1. 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)

Answer:

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2. Kilowatt hour is the unit of

A. resistivity

B. conductivity

C. electrical energy

D. electrical power

Answer:

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3. .....element emits its radiation spontoneously.

A. Ni

B. Pb

C. Pt

D. u

Answer:

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4. Which of the following is a triatomic molcule ?

A. Glucose

B. Helium

C. Carbon-di - oxide

D. Hydrogen

Answer:

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5. _____ is an important metal to form amalgam .

A. Ag

B. Hg

C. Mg

D. Al

Answer:

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6. the component present in lesser amount , in a solution is called ____.

A. solute

B. solvent

C. solution

D. colloid

Answer:

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7. A patient with blood group O was injured in an accident and has lost . Which blood group the doctor should effectively use for transfusion in this condition ?

A. O group

B. AB group

C. A or B group

D. All blood group

Answer:

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8. Excessive consumption of alcohol leads to

A. Loss of memory

B. Cirrhosis of liver

C. State of hallucination

D. Supperssion of brain function

Answer:

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9. Which is formed during anaerobic respiration

A. Carbohydrate

B. Ethyl alcohol

C. Acetyl CoA

D. Pyruvate

Answer:

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10. Casparian strips are present in the _____ of the root.

A. Cortex

B. Pith

C. Pericycle

D. Endodermis

Answer:

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11. The soft finely stratified sedimentary rock is called _____ .

A. Shale

B. Petroleum

C. Methane

D. Coal

Answer:

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12. All files are stored in the _____

A. Folder

B. Box

C. Paint

D. Scanner

Answer:

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13. Newton's III law is applicable _____.

A. for a body is at rest

B. for a body in motion

C. both a and b

D. only for bodies with equal masses.

Answer: C

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14. SI unit of resistance is

A. mho

B. joule

C. Ohm

D. Ohm meter

Answer: C

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15. Which of the following is the heaviest one ?

A. Hydrogen

B. Alpha

C. Beta

D. Gamma

Answer: B

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16. 1 mole of any substance contains___molecules.

A. 6.023×10^{23}

B. 6.023×10^{-23}

C. 3.00115×10^{23}

D. 12.046×10^{23}

Answer: A

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17. In the alumino thermic process, the role of Al is _____

A. Oxidizing agent

B. reducing agent

C. hydrogenation agent

D. Sulphurising agent

Answer: B

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18. solubility is the amount of solute dissolved in _____ g of solvent .

A. 10 g

B. 50 g

C. 100 g

D. 1 g

Answer: C

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19. The decreased heart beat is called.....

A. SA node

B. Purkinjee fibres

C. AV node

D. Bundle of His

Answer: A

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20. Metastasis is associated with

A. Benign tumour

B. Malignant tumour

C. Both (a) and (b)

D. Crown gall tumour

Answer: B

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21. Kreb's cycle takes place in

A. Chloroplast

B. Stomata

C. Inner mitochondrial

D. Mitochondrial matrix

Answer: D

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22. The endarch condition is the characteristic feature of

A. root

B. stem

C. leaves

D. flowers

Answer: B

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23. Autecology deals with the study of .....

A. fossils

B. genes

C. petroleum

D. homologous organ

Answer: A

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24. Which software is used to create animation?

A. Paint

B. PDF

C. MS word

D. Scratch

Answer: D

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25. In which of the following sport the turning effect of force used ?

A. Swimming

B. Tennis

C. Cycling

D. Hockey

Answer: C

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26. In a myopic eye, the image of the object is formed

A. behind the retina

B. on th retina

C. in front of the retina

D. on the blind spot

Answer: C

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27. When two 2Ω resistors are connected in parallel, the effective resistance is . . . . . .

A. 4Ω

B. 1Ω

C. 0.5Ω

D. 5Ω

Answer: B

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28. _____ aprons are used to protect us from gamma radiations

A. Lead oxide

B. Iron

C. Lead

D. Aluminium

Answer: C

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29. Atomicity of phosphorous is _____.

A. 4

B. 3

C. 5

D. 6

Answer: A

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30. TFM in soaps represents _____ content in soap .

A. mineral

B. vitamin

C. carbohydrate

D. fatty acid

Answer: D

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31. _____ is ATP factory of the cells.

A. Chloroplasts

B. Mitochondria

C. Nucleus

D. Golgi Complex

Answer: B

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32. In rabbit,.....type of teeth is absent.

A. incisors

B. canines

C. molar

D. premolar

Answer: B

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33. .....is the important neurotransmitter released by neurons.

A. Cerebrospinal Fluid

B. Axoplasm

C. Acetylcholine

D. All the above

Answer: C

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34. Name the gaseous plant hormone.

A. Abscisic acid

B. Cytokinin

C. Auxin

D. Ethylene

Answer: D

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35. We cn cut the DNA with the help of

A. restriction endonucleases

B. RNAase

C. scissors

D. knife

Answer: A

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36. Common energy source in village is

A. electricity

B. coal

C. biogas

D. wood and animal dung

Answer: C

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37. Newton's laws are applicable in

A. for a body is at rest

B. for a body in motion

C. both (a) & (b)

D. only for bodies with equal masses

Answer: A::B::C

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38. Amount of light entering into the eye is controlled by _____.

A. retina

B. iris

C. pupil

D. medulla oblongata

Answer: B

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39. When sound travels from air to water, which parameter does not change?

A. Wavelength

B. Frequency

C. Velocity

D. Temperature

Answer: B::C

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40. 1 Mole of any substance contains _____ molecules .

A. 6.023×10^{23}

B. 6.023×10^{-23}

C. 3.0115×10^{23}

D. 12.046×10^{23}

Answer: A::B::C

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41. Chemical formula for rust is ..... .

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42. The pH of a solution is 3. Its $\left[OH^{-}\right]$ concentration is ..... .

A. 1×10^{-3} M

B. 3M

C. 1×10^{-11} M

D. 11M

Answer: A::C

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43. ___ are the largest of the leuocytes .

A. kidney

B. nephron

C. ganglion

D. nephridia

Answer: A::D

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44. ___ are the largest of the leuocytes .

A. Monocytes

B. Lymphocytes

C. Basophils

D. Neutrophils

Answer: A::C

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45. A person who met with an accident lost control of body temprature ,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

Answer: A::D

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46. The miracle rice which saved millions of lives and celebrated its 50th birthday is

A. IR8

B. IR24

C. Alomita 2

D. Ponni

Answer: A

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47. Study of fossils is known as ..... .

A. fossilization

B. Palaeontology

C. Anatomy

D. Embryology

Answer: A::B

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48. Down's syndrome is the genetic condition with 45 chromosomes.

A. 44

B. 45

C. 46

D. 47

Answer: D

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49. Plotting a graph for momentum on the X-axis and time on Y-axis. Slope of momentum-time graph gives .....

A. impulsive force

B. acceleration

C. force

D. rate of forece

Answer: C

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50. If V_B, V_G, V_R 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. $V_B = V_G = V_R$

B. $V_B > V_G > V_R$

C. $V_B < V_G < V_R$

D. $V_B < V_G > V_R$

Answer: B

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51. Boron - 10 and Boron - 11 are called ..... .

A. isotopes

B. isobars

C. isotones

D. isomers

Answer: A

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52. Deflected by electric field : α ray, Null Deflection .....

A. β ray

B. α ray

C. infra red ray

D. γ ray

Answer: D

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53. The process of coating the surface of metal with a thin layer of zinc is called _____

A. painting

B. thinning

C. galvanization

D. electroplating

Answer: C

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54. The chemical equation

$$Na_2SO_{4(aq)} \rightarrow BaSO_{4(g)} + 2NaCl_{(aq)}$$

represents which of the following types of reaction ?

A. Precipitation

B. Combustion

C. Neutralisation

D. Single displacemnet

Answer: A

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55. Assertion : Cristae increases the inner surface area of mitochondria.

Reason : Cristae involve in ATP synthesis.

A. Oxysomes

B. Nucleus

C. Xylem

D. Epidermis

Answer: A

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56. The brain of leech lies above the

A. mouth

B. buccal

C. pharynx

D. crop

Answer: C

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57. Root hairs are

A. cortical cell

B. projection of epidermal cell

C. unicellular

D. both (b) & (c)

Answer: D

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58. Calculate the molar mass of CH_4

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59. The hormone which has positive effect on apical dominance is

A. cytokinin

B. auxin

C. gibberllin

D. ethylene

Answer: B

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60. 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) & (b)

Answer: D

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61. Inertia of the 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)

Answer: C

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62. The distance between the lens and focus is called _____.

A. pole

B. radius of curvature

C. principal axis

D. focal length

Answer: D

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63. The frequency, which is audible to the human ear is

A. 50 kHz

B. 20 kHz

C. 15,000 Khz

D. 10,000 kHz

Answer: B

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64. In the nucleus of ${}_{20}Ca^{40}$, 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

Answer: B

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65. Rectified spirit is an aqueous solution which contains about _____ of ethanol .

A. $95.5\ \%$

B. $75.5\ \%$

C. $55.5\ \%$

D. $45.5\ \%$

Answer: A

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66. which of the folloeing represent a precipitation reaction ?

A. $A_{(s)} + B_{(s)} \rightarrow C_{(s)} + D_{(s)}$

B. $A_{(s)} + B_{(aq)} \rightarrow C_{(aq)} + D_{(I)}$

C. $A_{(aq)} + B_{(aq)} \rightarrow C_{(s)} + D_{(aq)}$

D. $A_{(aq)} + B_{(s)} \rightarrow C_{(aq)} + D_{(I)}$

Answer: C

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67. The animals which give birth to young ones are

A. oviparous

B. viviparous

C. ovoviviparous

D. all the above

Answer: B

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68. Discuss the role of magnesium in plants.

A. Respiration

B. Excretion

C. Transpiration

D. None of the above

Answer: C

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69. Bipolar neurons are found in____

A. early embryo

B. cerebral cortex

C. respiratory epithelium

D. retina of the eye

Answer: D

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70. Which hormone is referred as "flight and fight" hormone ?

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71. Which method of crop improvement can be practised by a farmer if he is in experienced?

A. Clonical selection

B. Mass selection

C. Hybridization

D. Pureline seletion

Answer: B

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72. Where you will create category of blocks ?

A. Block menu

B. Block palette

C. Script area

D. Sprite

Answer: A

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73. 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. 4M

B. 2M

C. M/4

D. M

Answer: C

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74. The eye defect's presbyopia' can be corrected by

A. convex lens

B. concave lens

C. convex mirror

D. bifocal lenses

Answer: D

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75. Sound propagates maximum in . . . .

A. gas

B. liquid

C. solid

D. all

Answer: C

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76. Mass of 2 mole of Nitrogen atom is . . . . . .

. . . .

A. 28 amu

B. 14 amu

C. 28 g

D. 14 g

Answer: B

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77. The molecular formula of an open chain organic compound is C_3H_6. The class of the compound is

A. alkane

B. alkene

C. alkyne

D. alcohol

Answer: B

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78. _____ forms the basis of modern periodic table .

A. Atomic number

B. Mass number

C. Proton

D. Electron

Answer: A

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79. Heparin is produced by :

A. leech

B. tapeworm

C. earthworn

D. rabbit

Answer: A

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80. Platelets play an important role in clotting of blood .

A. Leucocytes

B. platelets

C. Lymphocytes

D. Monocytes

Answer: B

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81. A neuron contains all cell organelles except____

A. nucleus

B. cytoplasm

C. centrioles

D. axon

Answer: C

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82. Organisms with modified endogenous gene of a foreign gene are also known as____.

A. transgenic organism

B. genetically modified

C. mutated

D. both (a) & (b)

Answer: D

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83. Fill in the blanks:

(i) The degenerated and non-functional organs found in an organism are called_____.

(ii) The theory of natural selection for evolution was proposed by ___.

A. Charles Darwin

B. W.F. Libby

C. Ernst Haeckel

D. Leonardo da Vinci

Answer: A

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84. LH is also known as

A. Monosomy

B. Trisomy

C. Nullisomy

D. None of the above

Answer: C

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Part Ii

1. State Newton's second law .

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2. What are the causes of Myopia?

Watch Video Solution

3. What is the minimum distance needed for an echo?

Watch Video Solution

4. Why does the reaction rate of a reaction increase on raising the temperature ?

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5. Differentiate soaps and detergents .

Watch Video Solution

6. Write the dental formula of rabbit.

Watch Video Solution

7. What is bolting?

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8. _____ mirror is used as a security mirror in shops and on roads at sharp bends and concealed entrances.

A. Convex

B. concave

C. prism

D. rectangle glass slab

Answer: A

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9. How can you find the age of fossiles ?

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10. A charge of 10 coulomb flows through a bulb in 5 second. What is the current through the bulb ?

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11. State the principle of moments .

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12. Why does sky appear blue?

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13. What is the audible range of frequency?

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14. calculate the number of moles. 27.95 g of iron

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15. what is irreversible reactions?

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16. Distinguish between Oviparous and Viviparous animals .

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17. Bring out any two physiological activities of abscisic acid (ABA).

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18. (a) List the difference between RBC and WBC.

(b) Define triple fusion.

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19. Why is Archaeopteryx considered to be a connecting link?

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20. Calculate the resistance of a conductor through which a current of 5A passes , when the potential difference between its ends is 60V.

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21. Define moment of a couple.

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22. State Rayleigh's law of scattering.

Watch Video Solution

23. Why is tungsten metal used in bulbs?

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24. Which material protects us from radiation ?

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25. Differentiate irreversible and reversible reactions.

Watch Video Solution

26. Explain diphyodont dentition.

Watch Video Solution

27. Enumerate the function of blood .

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28. (a) Name the gaseous plant hormone. Describe its three different actions in plants.

(b) Which hormone is known as stress hormone in plants ? Why?

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29. What is autogamy?

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30. Solve the equation for α decay and β decay.

α decay $._{88} Ra^{226} \rightarrow Rn + ...$

β decay $._{27} Co^{60} \rightarrow Ni + ...$

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31. While catching a cricket ball the fielder lowers his hands backwards. Why?

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32. Differentiate convex lens and concave lens.

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33. State-the law of volume.

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34. The gram atomic mass of an element has no unit

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35. State two conditions necessary for rusting of iron.

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36. What is diastema?

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37. (i) Which hormone requires iodine for its formation ? What will happen if intake of iodine in our diet is low ?

(ii) What is the importance of raivater harvesting ?

(iii) What is colosturm ? How is milk production hormonally regulated ?

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38. Identify the parts A, B, C, D.

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39. The degenerated wing of a Kiwi is an acquired character. Why is it an acquired character?

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40. Calculate the number of moles present in 60 g of NaOH.

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41. Define inertia. Give its classification.

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42. Correct the statement : (True or False)

(a) Velocity of light is greater in denser

medium than in rarer medium.

(b) Increase in the converging power of eye lens causes 'hypermetropia'.

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43. Which instrument is used to measure the electric current ?

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44. which instrument used to measure resistance ?

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45. Name the simplest ketone and give its structural formula.

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46. Give the common name of the Hirudinaria granulosa.

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47. Define stimulus.

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48. Name the part of the human female reproductive system where the following

occurs .

Fertilization

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49. How are chromosomes classified based on the position of centromere ?

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50. Find the molecular mass of NaOH.

Watch Video Solution

51. What is the minimum distance needed for an echo?

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52. What is stellar energy ?

Watch Video Solution

53. Write down the difference between the sound and light waves.

Watch Video Solution

54. Define atomicity ,give one example.

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55. Match the following :

(1) Conidia	(i) Yeast
(2) Budding	(ii) Bacteria
(3) Gamma cups	(iii) Aspergillus
(4) Binary fission	(iv) Marchantia

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56. Why are the rings of cartilages found in trachea of rabbit?

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57. Mature RBC in mammals do not have cell organelles .

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58. What are resolution and resolving power?

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59. Genotypic ration of monohybrid cross

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60. A sound wave has a frequency of 200 Hz and a speed of $400ms^{-1}$ in a medium. Find the wavelength of the sound wave.

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61. Weight of a body is greater at the equator and less at the polar region .

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62. Apparent weight of a person is always equal to his actual weight

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63. Define power.

Watch Video Solution

64. Which hazardous radiation is the cause for the genetic disease ?

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65. (i) Give an example each (i) gas in liquid, (ii) liquid, (iii) solid in solid, (iv) gas in gas

(ii) explain the types of double displacement reactions with examples.

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66. Differentiate soaps and detergents .

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67. Explain the Excretory System of Leech briefly.

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68. What is transpiration pull ?

Watch Video Solution

69. What is mesoglea?

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70. A charge of 12 coulomb flows through a bulb in 5 second. What is the current through the bulb ?

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Part Iii

1. Explain the meaning of law of conservation of linear momentum

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2. Draw a ray diagram to show the image formed by a convex lens when the object is placed between F and 2F.

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3. How many electrons are passing per second in a circuit in which there is a current of 5 A ?

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4. Derive the relationship between relative molecular mass and Vapour density.

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5. How is metal corrosion prevented?

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6. Explain the structure of a neuron.

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7. Assertion: Cannot see the distant object clearly. Reason: The far point of an eye suffering j, from myopia is less than infinity.

A. both correct

B. assertion only right

C. reason only right

D. both wrong

Answer: B

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8. Differentiate the following

Monocot root and Dicot root

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9. What precautions can be taken for preventing heart diseases ?

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10. .

(i) Calculate the pH of $0.01MHNO_3$?

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11. State the universal law of gravitation and derive its Mathematical expression.

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12. (i) List any five properties of light

(ii) State Rayleigh' law of scattering.

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13. (i) A torch bulb is rated at 3V and 600 ma . Calculate it's (a) power (b) resistance

(c) energy consumed if it used for 4 hours.

(ii) Why does sound travel faster on a rainy day than on a dry day ?

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14. Give the salient features of " Modern atomic theory ".

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15. In Hall's process of electrolytic reduction of alumina . Name the Cathode .

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16. What are the structures involved in the protection of brain?

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17. What is the importance of values in the heart ?

Watch Video Solution

18. Differentiate the following

BOD and COD

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19. What is metastasis ?

Watch Video Solution

20. (i) Explain Soddy and Fajan Radioactive displacement law.

(ii) Calculate the ph of $0.05MH_2SO_4$.

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21. State and derive the perfect or ideal gas equation.

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22. (i) A man is standing between two vertical walls 680 m apart . He claps his hands and hears two distinct echoes after 0.9 second and

1.1 second respectively. What is the speed of sound in the air?

(ii) A door is pushed , at a point whose distance from the hinges is 90 cm , with a force of 40 N. Calculate the moment of the force about the hiages.

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23. (i) Calculate the mass of 2.5 mole of oxygen atom.

(ii) Calculate the number of molecules in 11g of CO_2.

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24. How is ethanol manufactured from sugarcane ?

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25. (i) Which hormone requires iodine for its formation ? What will happen if intake of

iodine in our diet is low ?

(ii) What is the importance of raivater harvesting ?

(iii) What is colosturm ? How is milk production hormonally regulated ?

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26. How does locomotion take place in leech?

Watch Video Solution

27. Deduce the equation of a force using Newton's second law of motion.

Watch Video Solution

28. Explain the rules for obtaining images formed by a convex lens with the help of ray diagram.

Watch Video Solution

29. Write down the uses of CT?

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30. Name the acid that render aluminium passive. Why ?

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31. In what way hygroscopic substances differ from deliquescent dubstances .

Watch Video Solution

32. Describe the structure of chromosome.

Watch Video Solution

33. Define Ethnobotany and write its importance.

Watch Video Solution

34. What are transgenic organisms?

Watch Video Solution

35. Discuss the method of breeding for disease resistance.

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36. A piece of wire of resistance 20Ω is drawn out so that length is increased to twice its

original length. Calculate the new resistance.

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37. State and prove the law of conservation of energy.

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38. Define Raman scattering.

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39. What is co-efficient of apparent expansion?

Watch Video Solution

40. State Avogadro's Hypothesis. and applications

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41. Explain the classification based on the direction of the reaction.

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42. Classify neurons based on its structure.

Watch Video Solution

43. what is a neuron ?

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44. Describe the structure of Mitochandria.

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45. What are the disadvantages of solar energy ?

Watch Video Solution

46. (i) A convex lens of power +6D and a concave lens of power -4D are combined together.

Find the power of the combination of two lenses.

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47. what is ammeter?

Watch Video Solution

48. Explain the rules for obtaining images formed by a convex lens with the help of ray diagram.

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49. With an illustrations explain the method of calculation for cubical expansion of an object.

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50. Identify the bond between H and F in HF molecule.

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51. Write notes on unsturated solution.

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52. Represent a flow chart showing the postulates of Lamarckism.

Watch Video Solution

53. How are stem cells useful in regenerative process ?

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54. What are the functions of Lymph ?

Watch Video Solution

55. List out the parasitic adaptations in leech.

Watch Video Solution

56. Explain why, the ceilings of concert halls are curved.

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57. What is Tyndall scattering ?

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58. Give examples for Newton's third law .

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59. What are the factors that affect the speed of sound in gases?

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60. How will you determine the density of a stone using a measuring jar?

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61. how can increase solubility?

Watch Video Solution

62. How can you find the age of fossiles ?

Watch Video Solution

63. Differentiate between outbreeding and inbreeding.

Watch Video Solution

64. What is the importance of rainwater harvesting?

Watch Video Solution

65. What are the functions of leaf?

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66. Two bodies have a mass ratio of 3:4. The force applied on the bigger mass produces an acceleration of 12 ms^{-2}. What could be the acceleration of the other body , if the same force acts on it .

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67. Difference between mass and weight. (any five)

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68. What is the use of simple microscope ?

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69. With the help of a circuit diagram derive the formula for the resultant resistance of three resistances connected in series.

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70. Give the salient features of " Modern atomic theory ".

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71. How will you classify hydrocabons?

Watch Video Solution

72. Describe the structure of chromosome.

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73. How is a mule produced ?

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74. Name two common sexual diseases. What are their symptoms ?

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75. The amount of work done to move 20C charge from one point to another is 220 J. What is the potential difference between these two points ?

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Part Iv

1. Explain the experiment of measuring the real and apparent expansion of a liquid with a

neat diagram.

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2. A source of sound is moving with a velocity of $50ms^{-1}$ towards a stationary listener. The listener measures the frequency of the source as 1000Hz. What will be the apparent frequency of the source when it is moving away from the listener after crossing him? (velocity of sound in the medium is $330ms^{-1}$).

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3. Calculate the mass of 1.51×10^{23} molecule of H_2O.

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4. Write notes on various factors affecting solubility .

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5. The questions given below consist of an assertion and the reason. Use the following key to choose the apAssertion: Incident light is reflected in only one direction from a smooth surface. Reason: Since the angle of incidence and the angle of reflection are same, a beam of parallel rays of light falling on a smooth surface is reflected as a beam of parallel light rays in one direction only.propriate answer.

A. (a) Both the Assertion and the Reason are correct and the Reason is the correct

explanation of the Assertion.

B. The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion

C. Assertion is true but the Reason is false.

D. The statement of the Assertion is false but the Reason is true.

Answer: A

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6. List out the parasitic adaptations in leech.

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7. What is mean by rellection of sound? Explain.

(a) Reflection at the boundary of a rarer medium

(b) Reflection at the boundary of a denser medium

(c) Reflection at sound in curved surfaces

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8. An object of height 3 cm is placed at 10 cm from a concave lens of focal length 15 cm. find the size of the image.

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9. What is the pH of 1.0×10^{-5} molar solution of KOH ?

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10. Define the term solutions

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11. What are the advantages of using biogas?

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12. Explain in the structure of spinal cord.

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13. Compare the properties of alpha, beta, and gamma radiations.

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14. Find the final temperature of a cooper rod. Whose area of cross section changes from $10m^2$ to $11m^2$ due to heating. The copper rod is initially kept at 90K. (Coefficient of superficial expansion is 0.0021/K)

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15. Calculate the % of each element in calcium carbonate. (Atomic mass: C-12, O-16, Ca-40)

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16. explain solid solution ,Liquid solution and Gaseous solution .

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17. Natural selection is a driving force for evolution-How ?

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18. calculate the molar mass of the water.

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19. The ratio of masses of two planets is 2:3 and the ratio of their radii is 4:7 . Find the

ratio of their acceleration due to gravity .

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20. what is pH full form?

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21. What is food?

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22. State newton's third law

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23. An object is placed at 50 cm from a lens produces a virtual image at a distance of 10 cm in front of the lens . What is the focal length of the lens ? Is it converging or diverging ?

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24. write any four characteristics features of homologous of organic compounds?

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25. How many grams are there in 2 moles of H_2O.

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26. The _____ phase of menstrual cycle is also called secretory phase

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27. With a neat labelled diagram explain the techniques involved in gene cloning.

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28. What is refractive index ?

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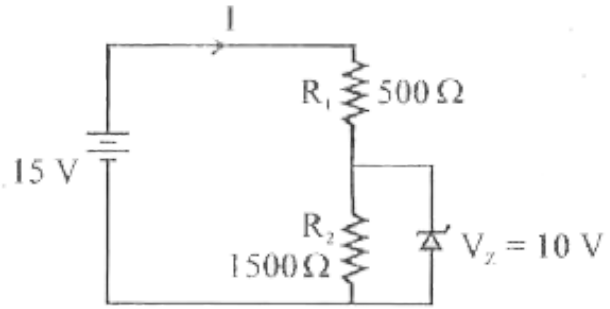
29. In the circuit given , the current through the zener diode is



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30. define combination reaction.

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31. 7.5 litre of ethanol is present in 15 litre of aqueous solution of ethanol . Calculate Volume percent of ethanol solution .

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32. What does CNS stand for

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33. Explain the structure of a neuron.

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Part I Choose The Most Suitable Answer Answer All The Questions

1. The unit of torque is

A. Nm

B. Newton

C. Dyne

D. Kgf

Answer: A

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2. Power of lens is -0.5 D, then the focal length is.....

A. 4 m

B. 0.2 m

C. -2 m

D. -0.25 m

Answer: C

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3.. . . . . Is used to indicate the direction os current.

A. Voltmeter

B. Ammeter

C. Galvanometer

D. Rheostat

Answer: B

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4. The Volume occupied by 1 mole of a diatomic gas at S.T.P is _____.

A. 11.2 litre

B. 5.5 litre

C. 22.4 litre

D. 44.8 litre

Answer: C

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5. _____group contains the members of halogen family .

A. 17^{th}

B. 18^{th}

C. 15^{th}

D. 16^{th}

Answer: A

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6. when pressure is increaed at constant temperature the solubility of gases in liquid _____.

A. no change

B. increases

C. decreases

D. no reaction

Answer: B

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7. Name the phenomenon by which carbohydrates are oxidized to release ethyl alcohol.

A. Kreb's cycle

B. anaerobic respiration

C. glycolysis

D. aerobic respiration

Answer: D

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8. The blood sucking habit of leech is known as _____ .

A. Herbivorous

B. Predator

C. Sanguivorous

D. Cannibalism

Answer: C

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9. The force of attraction between molecules of water is called.....

A. cohesion

B. adhesion

C. capillary action

D. transpiration

Answer: A

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10. In man, there are _____ of cranial nerves.

A. 31

B. 13

C. 21

D. 12

Answer: D

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11. The_____units form the backbone of the DNA.

A. 5 carbon sugar

B. sugar phosphate

C. nitrogenous base

D. phosphate

Answer: B

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12. 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

Answer: D

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Part Ii Answer Any Seven Questions

1. Define dispersion of light.

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2. Differentiate mass and weight.

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3. What is meant by Rayleigh scattering.

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4. Calculate the number of water molecules present in one drop of water which weights 0.18 g.

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5. Mention the uses of copper.

Watch Video Solution

6. Name is five layers of body wall of leech.

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7. What is the function of oxytocin?

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8. Which among the following is/are solid aerosol?

(i) Dust (ii) Fog (iii) Aerosol spray (iv) Air

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9. State the Biogenetic law.

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10. Calculate the pH of sodium hydroxide solution having the concentration of $OH^{-}0.01ml^{-1}$.

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Part Iii Answer Any Seven Questions

1. Deduce the equation of a force using Newton's second law of motion.

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2. Explain the construction and working of a 'Compound Microscope'.

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3. Explain superficial expansion with equation.

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4. Give the salient features of " Modern atomic theory ".

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5. Methods of preventing corrosion

Watch Video Solution

6. The sex of the new born child is a matter of chance and neither of the parents may be considered responsible for it.What would be the possible fusion of gametes to determine the sex of the child?

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7. Describe the structure of chloroplast.

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8. (i) The ratio of masses of two planet is 2:3 and the ratio of their radii is 4:7. Find the ratio of their accelerations due to gravity.

(ii) What are the advantages of LED TV over the normal TV?

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Part Iv Answer All The Questions

1. Distinguish between ideal and non-ideal solution.

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2. (i) A torch bulb is rated at 3V and 600 mA. Calculate,

(a) power (b) resistance (c) energy consumed

if it is used for 4 hours.

(ii) Calculate the mass of a body weighing 100 dyne. $g = 10m/s^2$.

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3. Derive the relationship between relative molecular mass and Vapour density.

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4. (i) Explain smelting process.

(ii) Calculate the number of moles of CO_2

(iii) Find the mass of 2.5 mole of oxygen atom.

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5. How does rainwater harvesting structures recharge ground water?

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6. Explain the structure and function of tRNA?

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