कक्षा : ८   पूर्णाङ्क : ७५
समय : २ घण्टा १५ मिनेट   Answer Key/Marking Scheme
                                            विषय : विज्ञान तथा वातावरण शिक्षा
                                            (Science & Environment Education)

Group 'A' Physics

1(a) Any two difference   1X2=2 Marks

Fundamental Unit	Derived Unit
Independent unit	Dependent unit
Consists of only one unit of fundamental physical quantity	Consists of two or more fundamental units

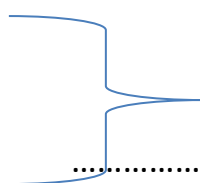(b) Rate of change in velocity is called acceleration …………………………………… 1 Mark
     Given, initial velocity(u)=0 m/s
     Acceleration(a)=8m/s^2
     Time taken(t)=10 sec
     Final Velocity(v)=?   …………………………………… 0.5 Mark

We know,

          v=u+at ………………………………… 0.5 Mark
          v =0+8x10
          v=80 ………………………………… 0.5 Mark
          v=80 m/s Answer with Correct unit ………………………………… 0.5 Mark

2(a) The efficiency of a machine is 80% means only 80% of input effort is used to overcome the load while 20% is lost in the form of heat energy due to friction.
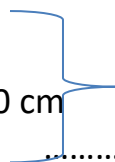   …………………………………1Mark
     Given,
     load=800N
     load distance=20cm
     Effort distance= (120-20) cm=100 cm
     E=?   …………………………………… 0.5 Mark
     We know,
          ExEd=LxLd ………………………………… 0.5 Mark

     $E=\dfrac{LXLd}{Ed}=\dfrac{80X20}{100}=16$ …………………………………… 0.5 Mark

Answer with Correct unit ……………………………………… 0.5 Mark

(b) Force acting per unit area is called pressure. ……………………………………… 1 Mark
    Because the air pressure outside the body & pressure inside the body is equal…………1 Mark

3(a) 1 Joule work is the amount of work when one newton force is applied to displace a body
    by 1 meter ………………………………………………………………………………… 1 Mark
      Given,
      Mass(m)= 50Kg
      Height (h)=20m
      Acceleration due gravity (g)=10m/s^2 ……………………………………… 0.5 Mark
      Time taken(t)=10Sec
      Power(p)=?

      We Know that
      $P=\dfrac{Work\ done}{Time\ taken} = \dfrac{mXgXh}{t}$ ……………………………………… 0.5 Mark

      $P= \dfrac{50X10X20}{10}$ ……………………………………… 0.5 Mark
      P=1000 watt ……………………………………… 0.5 Mark

(b) ……………………………………………………………………………… 2 Marks

Heat	Temperature
It is the sum of total K.E. of molecules of the body	It is the average kinetic energy of the molecules of the body
Its SI unit is joule	Its SI unit is kelvin
Measured by calorimeter	Measured by thermometer

(any two of them or any other)

4(a)
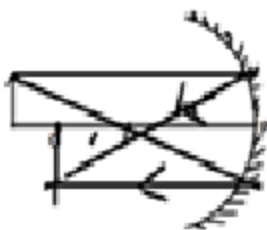
…………………………………………………………………………… 2 Marks

      Nature of Image:
          ❖ Real
          ❖ Inverted
          ❖ Between 'c'&'F'
          ❖ Reduced (any two) 2X0.5=1Mark

(b) .... 2 Marks

Echo	Reverberation
It is the repetition of sound due to its reflection	It is the prolongation of sound due to mixing of original sound & reflected sound
It occurs when the distance between the source of sound & reflector is more than 17m	It occurs when the distance between the source of sound & reflector less than 17m

Group 'B'

5(a) Simple cell diagrams .... 1 Mark
    Label any two 2X0.5=1 Mark
Defects:
  (i)   local action
  (ii)   polarization   2X0.5=1 Mark

(b)
i) by heating
ii) by hammering
iii) by dropping down (any two) 2X1=2 Marks

6(a) Combining capacity of an element is called valency ……………………………………1 Mark
        A=sodium (Na) …………………………………………………………… 0.5Mark
         B= Chlorine (Cl) …………………………………………………………..0.5 Mark
         Molecular Formula: NaCl ……………………………………………………. 1 Mark
(b) $H_2 + O_2 \rightarrow H_2O$…………………………………………………… 1 Mark
    $2H_2 + O_2 \rightarrow 2H_2O$ (Balanced) ……………………………………………………. 1 Mark

7(a) Mixture that contains different types of colours can be separated by chromatography.
                                           ……………………………………………………… 1 Mark

i)distillation
ii) chromatography   2X0.5=1 Mark

(b) iron – hematite ……………………………………………………………..0.5 Mark
    Silver- argentite…………………………………………………………..0.5 Mark

Metal	Non-metal
Generally hard & shining	Generally soft
Lustrous	Non- lustrous

Malleable	Non malleable
Ductile	Non ductile
Good conductor of Heat and Electricity	Bad conductor

(any two of them or any other two)   2X1=2 Marks

8(a) PH value of neutral substance……………………………………………………………… 1 Mark

  Acids used in daily life
    ❖ pickle(acetic acid)
    ❖ curd(lactic acid)
    ❖ lemon(citric acid)   or any others   2X1= 2 Marks

(b) The water that does not give lather easily with soap……………………………… 1 Mark

   by boiling the hard water ………………………………… 1 Mark

Group 'C'

9(a)
    ❖ for food storage
    ❖ for reproduction
    ❖ for preparation of food (any two)……………………………………………………..2Marks

(b) Diagram of bacteriophage virus

   Complete diagram   ………………………………………………………..2Marks
   Label (any two) 2X0.5=1Mark

10(a) 2X1=2Marks

Apical Meristem	Lateral Meristem
-It is found at the tip of root & shoot	-It is found along the lateral side of stem
-It increases the height or length	-It increases girth or diameter of stem

(or any other suitable points)

(b) The epithelium   tissue   that has the special secretion   ………………………………..1Mark
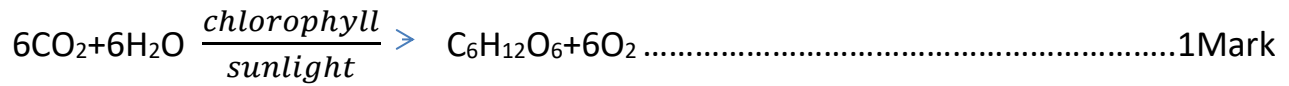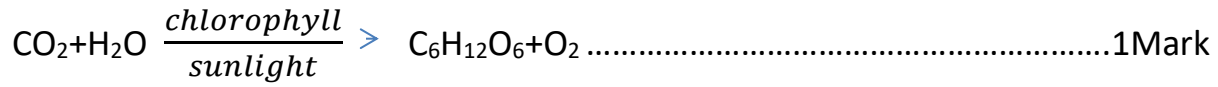Function: I) to secrete hormones
        ii) to secrete enzymes   2X1=2Marks

11(a) The production of offspring without involvement of male and female generate. (or
      without fusion of generate) ……………………………………………………………1Mark
   Organism produced by regeneration
        ❖ spirogyra
        ❖ tapeworm
        ❖ planaria (any two)   2X0.5=1mark

(b) due to the presence of red pigment hemoglobin ………………………………………………1Mark

$$CO_2 + H_2O \xrightarrow[sunlight]{chlorophyll} C_6H_{12}O_6 + O_2$$ …………………………………………………1Mark

$$6CO_2 + 6H_2O \xrightarrow[sunlight]{chlorophyll} C_6H_{12}O_6 + 6O_2$$ …………………………………………………1Mark

(balanced)

Group 'D'

12(a) Sliding of land, damaging of soil, cracking of land by the action of water, air etc. it called soil erosion. …………………………………………………………………………1Mark
   ❖ eastern region ………………………………………………0.5Mark
   ❖ due to the monsoon from west bangal……………………………………………1.5Marks

(b) Variation in the shape of the moon in every next day is called phases of moon…………1Mark
   • annual motion of earth(revolution) …………………………………………………0.5Mark
   • inclination of earth's axis on the elliptical plane……………………………………0.5Mark

Group 'E'

13(a) 3X1=3 (any three)
   i)   for food
   ii) for habitat
   iii) for medicinal herbs
   iv) for water etc.

(b) 2 X1=2 (any two)
   • to conserve the wild lives
   • to conserve the cultural & natural heritage
   • to promote tourism etc.

14(a) The degradation in the quality of our resources due to mixing the unwanted substances is called air pollution. Or any other correct definition. …………………………1Mark
   Effects of climate change 2 X1=2 (any two)
   • sea level increases
   • global warming
   • decrease in crop production

(b) IUCN=International Union for Conservation of Nature and Natural Resources. ……1Mark
   Main objectives 1 X1=1 (any one)
   • To protect the natural solidarity of nature & its diversities.
   • To inspire, encourage and co-ordinate the different countries, societies and organizations to achieve its objectives.

15(a) The aggregate form of the number of living organisms, its types, gene and ecosystem, is called biodiversity. Or any other suitable definition……………………………………1Mark

Because, here is wide range of geographical and climatic variation that results the availability of different types of plants & animals. 2Marks

(b) Sustainable development focuses on the appropriate use of resources and long term vision ………2Marks
 (if given any two suitable reasons)

समाप्त