

MODEL QUARTERLY EXAM - 2019

SUB: SCIENCE

MARKS: 75 marks

TIME: 2.30 hrs.

CLASS: X

1. Choose the best answer. (12 x 1 = 12)

1. Impulse is equal to —  
(a) rate of change of momentum (b) rate of force  
(c) rate of momentum (d) rate of change of mass

2. Power of a lens is  $-4D$ , then its focal length is —  
(a)  $4m$  (b)  $-40m$  (c)  $-0.25m$  (d)  $-2.5m$

3. Which of the Homodiatomic molecule?  
(a) Hydrogen (b) Helium (c) Carbon monoxide (d)  $CO_2$

4. SI unit of Temperature is —? Degree  
(a) Celsius (b) Kelvin (c) Fahrenheit (d) Farte

5. In the aluminio thermic process, the role of Aluminium is —?  
(a) oxidizing agent  
(b) reducing agent (c) Hydrogenating agent (d) None

6. Which of the following is the universal solvent?  
(a) water (b) Acetone (c) Benzene (d) Alcohol.

7. The endarch condition is the characteristic feature of —?  
(a) Root (b) Stem (c) leaves (d) flower.

8. The anticoagulant present in saliva of leech is called —?  
(a) Hirudin (b) Heparin (c) Podine (d) Ethelene

9. Nodes of Ranvier found in —?  
(a) muscles (b) axons (c) dendrites (d) cyton

10) Which is the sequence of correct blood flow?

- (a) ventricle - atrium - vein - arteries
- (b) atrium - ventricle - veins - arteries
- (c) atrium - ventricle - arteries - vein
- (d) ventricle - vein - atrium - arteries.

11) The hormone which has positive effect on apical dominance is —?

- (a) cytokinin (b) Auxin (c) Ethylene (d) Gibberellin.

12) Syngamy results in the formation of —

- (a) Zoospores (b) conidia (c) zygote (d) Chlamydozoog

II Answer any 7 questions. Q. no. 22 is compulsory

13) Difference between mass and weight? P. no. 10

14) Define. Rayleigh's Law of scattering. P. no. 18

15) Define. one calorie. P. no. 24

16) Match: 1. 8g of  $O_2$  - 0.5 moles

2. 4g of  $H_2$  - 0.25 moles

3. 52g of He - 2 moles

4. 35.5g of  $Cl_2$  - 13 moles

17) What is rust? Give the equation for formation of rust. 120

18) What is respiratory quotient? 184

19) Write the dental formula of Rabbit? 194

20) What is boding? How can it be induced artificially? 240 (Book back - 2 Short answer)

21) Why are the Human testes located outside the abdominal cavity? Name the pouch in which they are present? 258 (Book back - 12 Short answer)

22) Three resistors of resistances 5ohm, 3ohm, 2ohm are connected in series with 10V battery. Calculate their effective resistance and the current flowing through the

23. Deduce the equation of a force using Newton's Second law of motion? P.No. 6
24. Explain the Experiment to measure real and apparent expansion of liquid in Draw a neat diagram? 36
25. (i) How many electrons are passing per second in a circuit in which there is a current of 5A? 57  
(ii) Define unit of electric current? 43
- 26) Give the salient features of "Modern Atomic theory". 91
27. The electronic configuration of metal A is 2, 8, 18, 1  
The metal A when exposed to air and moisture forms B a green layered compound. A with con.  $H_2SO_4$  forms C and D along with water. D is a gaseous compound. Find the A, B, C, D. 123 (B-3-2)
28. (i) How do plants absorb water? Explain. 215  
(ii) Enumerate the functions of blood? 215
29. With a neat labelled diagram explain the structure of a neuron? 219
30. Difference between self pollination - Cross pollination. (246-247)
31. (ii) why are family planning methods not adopted by all the people of our country? 258 (B-3-14)
31. Explain with an example the inheritance of dihybrid cross. (263-264)
32. (i) Calculate the velocity of a moving body of mass 5kg whose linear momentum is  $2.5 \text{ kg ms}^{-1}$ . (12)  
(ii) A solution is made from 95ml of methanol and 5ml of water. calculate the volume of percentage? 133

- (b) Differentiate eye defect: Myopia and Hypermetropia. (25) - P19.
33. (a) Calculate the coefficient of cubic expansion of a zinc bar, whose volume increased  $0.25 \text{ m}^3$  from  $0.3 \text{ m}^3$  due to the change in its temperature  $50 \text{ K}$ . (OR)  
(b) An electric heater of resistance  $5 \Omega$  is connected to an electric source. If a current of 6A flows through the heater, then find the amount of heat produced in 5 minutes? Example 6 - (51)
34. (i) Find the mass of  $CO_2$  gas, 44.8 litre volume occupies  
(ii) Calculate the percentage composition of  $CaCO_3$  in each element.  
(iii) calculate the gram molar mass of the following  
(a)  $H_2O$  (b)  $Ca_3(PO_4)_2$  (OR)
- (i) State the reason for addition of caustic alkali to bauxite ore during purification of bauxite? (ii) write notes on various factors affecting solubility? 135
- (35) (i) Differentiate monocot root and Dicot root. 17  
(ii) write the physiological effects of gibberellin. (OR) (i) List out the parasitic adaptation in leech.  
(ii) How is the structure of DNA organised? what is the biological significance of DNA. (19)

Prepared by,

E. DEVADINESH MSc, BEd, CLP.

PG. ASST. IN PHYSICS

GREEN PARK MATRIC HR. SEC. SCHOOL

SIRUVACHUR, PBLR (TA)

CELL: 9524220942

Email: devadinesh phy 93 @ gmail. com.

I Choose the best answer.

- The amount of light entering into the eye is controlled by —?  
(a) Retina (b) Iris (c) Pupil (d) Cornea.
- Change of momentum is equal to —?  
(a) Force (b) velocity (c) Impulse (d) couple.
- The Value of Boltzmann constant —?  
(a)  $1.381 \times 10^{-23} \text{ mol}^{-1} \text{ K}^{-1}$  (b)  $8.31 \times 10^{23} \text{ JK}^{-1}$   
(c)  $1.381 \times 10^{23} \text{ JK}^{-1}$  (d)  $8.31 \times 10^{23} \text{ mol}^{-1} \text{ K}^{-1}$
- The unit of specific resistance —?  
(a) Ohm (b) Ohm.meter (c) watt (d) ampere
- The gram molar mass of the  $\text{Ca}_3(\text{PO}_4)_2$  —?  
(a) 44g (b) 408g (c) 308g (d) 16g
- is an important metal to form amalgam.  
(a) Ag (b) Hg (c) Mg (d) Al.
- Which of the following hygroscopic substance?  
(a) NaOH (b)  $\text{FeCl}_3$  (c)  $\text{CaCl}_2$  (d)  $\text{P}_2\text{O}_5$ .
- Pith tissue is present in —?  
(a) monocot stem (b) Dicot stem (c) a & b (d) none
- is the largest portion of alimentary canal.  
(a) rectum (b) crop (c) Anus (d) Pharynx.
- Incomplete four Chambered heart found in—?  
(a) Fish (b) Aves (c) Reptiles (d) Amphibians
- Each neuron can transmit — nerve impulses per second.

- Answer any 7 Questions. Q.No. 22 compulsory
- State Newton's second Law? 6
- State Snell's law? 17
- What are the factors depends on, the consumption of Electricity? 51
- Application of Avogadro Law? (any-4) 99
- Physical properties of Aluminium? 115
- Define solution? <sup>135</sup> (or) write a short note on Mesophyll! 135
- The complete events of cardiac cycle last for 0.8 sec. what is the timing for each event? 210
- Define Reflex arc. 224
- What is the role of Parathormone? 236
- Calculate the number of moles in,  
(i) 27g of Al <sub>104</sub> (ii)  $1.51 \times 10^{23}$  molecules of  $\text{NH}_4\text{Cl}$ . <sub>7x4=28</sub>
- Answer any 7 Questions. Q.No. 32 is compulsory
- Describe the Rocket propulsion.
- List any five properties of light?
- (i) State Boyle's law (ii) Difference between Ideal Gas and Real Gas.
- Derive the relationship between relative molecular mass and Vapour density?
- State two conditions necessary for rusting of Iron.
- (i) write a short notes on mesophyll? 179  
(ii) write the reaction for photosynthesis? 181

AB Blood Group - Absence of antigen

O Blood Group - Absence of antibody.

30) (ii) Why is the sinoatrial node called the pacemaker of heart?

31) Explain the structure of a chromosome?

32) A torch bulb is rated at 3V and 600mA. Calculate it's (a) power (b) resistance (c) energy consumed if it is used for 4 hours.

33  
IV Answer the all questions  $3 \times 7 = 21$ .

33) (i) State and prove the law of conservation of linear momentum? (ii) Explain the construction and working of a compound microscope? (OR)

Derive the ideal gas equation.  
(ii) Distinguish between linear, areal and superficial expansion.

34) (i) List the merits of LED bulb?

(ii) With the help of a circuit diagram derive the formula for the resultant resistance of three resistance connected (a) Parallel (b) Series.

(OR)

(i) A is a reddish brown metal, which combines with  $O_2$  at  $< 1370K$  gives B, a black coloured compound. At a temperature  $> 1370K$ , A gives C which is red in colour. Find A, B and C with reaction?

(iii) Explain the structure of chloroplast! (OR)

(i) How does locomotion take place in leech?

(ii) How is the circulatory system designed in leech to compensate the heart structure?

(iii) Explain the circulatory system of leech?

36) (i) What is

(ii) write a notes on (i) saturated solutions

(ii) unsaturated solution. (135)

35) (i) Explain the four stages of aerobic respiration? <sup>133</sup>

(ii) Explain how does locomotion take place in leech?

(iii) Difference between Artery and Veins (OR)

(i) Describe the structure of spinal cord? 223

(ii) What are the phases of menstrual cycle?

Indicate the changes in the ovary and uterus?

STD: X  
SUB: SCIENCE

TIME: 30 MINUTES  
MARKS: 75 MARKS

I. CHOOSE THE BEST ANSWER

15X1=15

- The unit of 'g' is  $\text{ms}^{-2}$ . It can be also expressed as -----?  
a)  $\text{cms}^{-1}$  b)  $\text{Nkg}^{-1}$  c)  $\text{Nm}^2\text{kg}^{-1}$  d)  $\text{cm}^2\text{s}^{-2}$
  - In which of the following sport turning of effect of force used-----?  
a) Swimming b) Tennis c) Cycling d) Hockey
  - Magnification of a convex lens is -----?  
a) Positive b) Negative c) both a&b d) Zero
  - The eye defect 'Presbyopia' can be corrected by ----- lens?  
a) Concave b) Convex c) Bifocal d) None
  - Which of the following is a triatomic molecule?  
a) Glucose b) Helium c) Carbon dioxide d) Hydrogen
  - The volume occupied by 1 mole of a diatomic gas at STP is ----?  
a) 11.2 litre b) 22.4 litre c) 5.6 litre d) 44.8 litre
  - group contains the number of Halogen family? a) 17 b) 15 c) 16 d) 18
  - The chemical formula of rust is -----?  
a)  $\text{Fe}_x\text{H}_2\text{O}$  b)  $\text{FeO}_4 \cdot x\text{H}_2\text{O}$  c)  $\text{FeO}$  d)  $\text{Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$
  - is an important metal to form amalgam. a) Ag b) Hg c) Mg d) Al
  - The 'endarch' condition is the characteristic feature of----?  
a) Root b) Stem c) Leaves d) Flower
  - Glycolysis takes place in ----? a) Chloroplast b) Cytoplasm c) Mitochondria d) None
  - pairs spinal nerves are present in rabbit. a) 35 b) 37 c) 32 d) 36
  - Mammals are ----- blooded animals. a) Warm b) Cold c) Poikilothermic d) None
  - 'Heart to heart' is called-----?  
a) AV node b) SA node c) Purkinji fibers d) None
  - Vomiting centre is located in -----?  
a) Stomach b) Cerebrum c) Hypothalamus d) Medulla oblongata
- II. ANSWER THE ANY 7 QUESTION
- 20X2=40
- State Newton's second law?
  - Define moment of a couple?
  - Difference between mass and weight?
  - How does an astronaut float in a space shuttle?
  - State Snell's law?
  - State Rayleigh's law of scattering?
  - Why are used traffic signals red in colour?
  - What is power of accommodation of eye?
  - Define Relative Atomic Mass.
  - Find the percentage of nitrogen in Ammonia?
  - Define Atomicity.
  - Calculate the number of moles in 27g of Aluminium?
  - Explain smelting process?
  - What are the uses of Aluminium?
  - A is a silvery white metal. A combines with  $\text{O}_2$  to form B at  $800^\circ\text{C}$ , the alloy of A is used in making the aircraft. Find A and B?
  - Write the uses of Iron?
  - What is respiratory quotient?
  - Write a short note on Mesophyll?
  - Name the three basic-tissues system in following plants?
  - Write the dental formula of rabbit?
  - How is diastema formed in rabbit?
  - Draw and label the structure of oxysomes?
  - Give the common name of the Hirudinaria granulosa and Orctologus cuniculus?

STD: X  
SUB: SCIENCE

TIME: 2.30MINUTES  
MARKS: 75 MARKS

12X1=12

I. CHOOSE THE BEST ANSWER

- Kilowatt hour is the unit of -----? A) Resistivity B) Electric energy C) Conductivity D) Electric power
  - The ratio of the potential difference to the current is known as ----?  
A) Volt B) Ohm C) Mho D) Coulomb
  - The value of Avogadro number ----? A)  $6.023 \times 10^{23}/\text{mol}$  B)  $6.023 \times 10^{23}/\text{mol}$  C)  $6.023 \times 10^{23}/\text{mol}$  D)  $6.023 \times 10^{23}/\text{mol}$
  - is the absolute scale of temperature of the body? A) 0K B) 1K C) 2K D) 273K
  - Which is an important metal to form amalgam? A) Ag B) Hg C) Mg D) Al
  - The melting point of copper ----? A)  $1236^\circ\text{C}$  B)  $1326^\circ\text{C}$  C)  $1256^\circ\text{C}$  D)  $1356^\circ\text{C}$
  - When pressure is increased at constant temperature the solubility of gases in liquid?  
A) No change B) Increase C) Decrease D) No reaction
  - Which is the Deliquescence substance? A)  $\text{H}_2\text{SO}_4$  B)  $\text{CaO}$  C)  $\text{P}_2\text{O}_5$  D)  $\text{NaOH}$
  - Node of Ranvier is found in ----? A) Muscles B) Axons C) Dendrites D) Cyton
  - Which part act in temperature control of the human body?  
A) Thalamus B) Hypothalamus C) Pons D) Cerebellum
  - The centromere is found at the centre of the ----- chromosome.  
A) Telocentric B) Metacentric C) Sub-metacentric D) Acrocentric
  - Down syndrome is the genetic condition with ----- chromosomes. A) 44 B) 45 C) 46 D) 47
- II. ANSWER THE ANY 7 QUESTION. Q.NO 22 IS COMPULSORY. 7X2=14
- State Boyle's Law? 14. Define the unit of Current? 15. What is Rust? Give the equation for formation of rust?
  - What is meant by binary solution? 17. Name the parts of the hind brain? 18. What are Okazaki fragments?
  - Define reflex arc? 21. Name any two device, which are working on the heating effect of the electric current?
  - A is a silvery white metal. A combines with  $\text{O}_2$  to form  $800^\circ\text{C}$ , the alloy of A is used in making of aircraft. Find A and B? 7X4=28
- III. ANSWER ANY THE ANY 7 QUESTION. Q.NO 32 IS COMPULSORY.
- Distinguish between linear, areal and superficial expansion? 24. State Ohm's law?
  - State two necessary conditions for rusting of iron? 26. What is aqueous and non- aqueous solution? Give example?
  - Difference between voluntary and involuntary action? 28. What do you understand phenotype and genotype?
  - What are Autosomes, Allosomes? 30. Define volume percentage, mass percentage?
  - (i) State- the law of volume ? (ii) Define one Calorie?
  - (i) What is the role of the earth wire in domestic circuit? (ii) Why is tungsten metal used in bulbs, but not in fuse wires?
- IV. ANSWER THE ALL QUESTION. DRAW A DIAGRAM WHEREVER NECESSARY. 3X7=21
- Derive the Ideal gas equation? (OR) (i) What are the advantages of LED TV over the normal TV?  
(ii) List the merits of LED bulb?
  - The electronic configuration of metal A is 2,8,18,1. The metal A when exposed to air and moisture forms B green layered Compound. A with con.  $\text{H}_2\text{SO}_4$  forms C and D along with water. D is a gaseous compound. Find A, B, C, D  
(ii) Name the acid that renders aluminium passive. why? (OR) Write notes on various factors affecting solubility?
  - With a neat labeled diagram explain the structure of a neuron? (OR) How is the structure of DNA organized?  
What is the biological significance of DNA?

MOTIVATIONAL THOUGHTS:

"THE BEST BRAINS OF THE NATION MAY BE FOUND ON  
THE LAST BENCH OF THE CLASS ROOM"

-Dr. A.P.J. ABDULKALAM

PREPARED BY,  
E.DEVADINESH MSC, BED, CLP.

PG.ASSISTANT IN PHYSICS

GREENPARK MATRIC HR.SEC. SCHOOL  
SIRUVACHUR, PERAMBALUR (DT)  
PINCODE-621113. CELL: 9524220942  
EMAIL: devadineshphy93@gmail.com

45. What is the function of thalamus and cerebellum?

46. Define corpora quadrigemina?

47. Write a short notes on pons?

III. ANSWER THE ALL QUESTION

4X5=20

48. With a neat labelled diagram explain the structure of a neuron? (OR)

Enumerate the function of blood?

49. List out the parasitic adaptations in leech? (OR)

Difference between (i) Monocot root and Dicot root (ii) Aerobic and anaerobic respiration?

50. List out the properties of light? (OR)

State and prove the law of conservation of linear momentum?

51. (i) Give the salient features of modern atomic theory? (ii) Calculate the number of water molecule present in one drop of water which weights 0.18 g (OR)

A is a reddish brown metal which combines with  $O_2$  at  $<1370\text{ K}$  gives B, a black coloured compound. At a temperature  $> 1370\text{ K}$ , A gives C which is red colour. Find A,B,C with reaction?

I<sup>st</sup> Mid term Question Paper Brijesh

Hyderabad.