

# K COMMON FIRST MID - TERM TEST - 2019

## STANDARD - X

### SCIENCE

Time : 1.30 hours

Marks: 50

#### I. Choose the correct answer :

10×1=10

- A and B are two objects with masses 100kg and 75kg respectively, then \_\_\_\_\_.  
a) both will have same inertia      b) B will have more inertia  
c) A will have more inertia      d) both will have less inertia
- Power of a lens is -4D, then its focal length is  
a) 4m      b) -40m      c) -0.25m      d) -2.5m
- Which of the following is a triatomic molecule?  
a) Hydrogen      b) Helium      c) Water      d) Carbon
- A group of atoms chemically bonded together is a (an)  
a) Atom      b) Salt      c) molecule      d) element
- The number of groups and periods in the periodic table are \_\_\_\_\_.  
a) 18, 7      b) 7, 18      c) 7, 17      d) 6, 16
- The acid which makes iron passive is  
a) Conc. HCl      b) Conc. H<sub>2</sub>SO<sub>4</sub>      c) Conc. HNO<sub>3</sub>      d) Conc. HF
- Oxygen is produced at what point during photosynthesis?  
a) When ATP is converted to ADP      b) When CO<sub>2</sub> is fixed  
c) When H<sub>2</sub>O is splitted      d) All of these
- Dental formula of rabbit is \_\_\_\_\_.  
a)  $\frac{2033}{1023}$       b)  $\frac{2003}{1003}$       c)  $\frac{2023}{1220}$       d)  $\frac{2030}{1020}$
- The body of leech has  
a) 23 segments      b) 33 segments      c) 38 segments      d) 30 segments
- Down's syndrome is a case of \_\_\_\_\_.  
a) Euploidy      b) Deletion      c) Translocation      d) Aueploidy

#### II. Answer any 10 questions. [Q.No.17 Compulsory]:

10×2=20

- State the principle of moments.
- What is meant by weight lessness?
- State Rayleigh's law of Scattering.
- Write any 2 applications of Concave lenses.
- Assertion and reasoning type:**  
Assertion : Myopia is due to the increase in the Converging power of eye lens.  
Reason : Myopia can be corrected with the help of concave lens.  
a) If both assertion and reason are true and reason is the correct explanation of assertion.  
b) Both are true but reason is not the correct explanation of assertion.  
c) Assertion is true but reason is false.  
d) Assertion is false but reason is true.
- True or False : [If false give the correct statement]**  
a) Molar mass of CO<sub>2</sub> is 42g      b) Noble gases are Diatomic.
- Calculate the number of molecules in 36gm of H<sub>2</sub>O?
- State two conditions necessary for rusting of iron?

#### 19. Match the following :

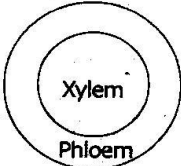
Group number	Family
13	Noble gases
2	Chalcogen family
14	Carbon family
16	Boron family
18	Alkaline earth metals

#### 20. Answer in a Sentence :

- What is the Common step in aerobic and anaerobic pathway?
- Name the phenomenon by which carbohydrates are oxidized to release ethylalcohol.
- Draw and label the structure of Oxysomes.
- Fill in the blanks:**  
a) Excretory organ of leech is \_\_\_\_\_.  
b) Segments of leech is \_\_\_\_\_.
- What are Okazaki fragments?
- Define Chargaff rule.

#### III. Answer in detail:

4×5=20

- Define inertia.  
What are the types of inertia? give an example for each type. (OR)
- Explain the Construction and working of a "Compound Microscope".
- Solve the following problems:**  
a) Calculate the % of each element in Calcium Carbonate.  
[Atomic mass C - 12 , O - 16 , Ca - 40]  
b) Calculate the % relative abundance of B-10 and B-11, if its average atomic mass is 10.804 amu. (OR)
- Metal A belongs to period 3 and group 13, A in red hot condition reacts with steam to form B. A with strong alkali [ NaOH] forms C. Find A, B and C with reactions.
- Differentiate the following :**  
a) Monocot Leaf and Dicotleaf.  
b) Aerobic and Anaerobic respiration. (OR)
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  - What do you infer from this diagram? Identify it?
  - Classify the type.
  - Give an example.
- Explain the male reproductive system of rabbit with a labelled diagram. (OR)
- How is the structure of DNA organized? What is the biological Significance of DNA?

## SCIENCE

- I. 10. The wall of human heart is made of
- a) Endocardium
  - b) Epicardium
  - c) Myocardium
  - d) all of the above
- II. 23. What is the importance of valves in the heart.
24. What is cohesion?
- III. 32. Enumerate the function of blood.