2nd Term Examination

**Class:** VII
**Subject:** Science

**Time:** 2Hrs
**Marks:** 80

## SECTION A BIOLOGY (25 Marks)

(Attempt all questions from this section)

**Q1. Match the terms given in column A with the most appropriate ones in column B and rewrite correct matching pairs:** [5]

| COLUMN A | COLUMN B |
|---|---|
| i) Chloroplast | a) Raw materials used for photosynthesis |
| ii) Glucose and Oxygen | b) Energy |
| iii) Carbon dioxide and water | c) Vascular system |
| iv) Sunlight | d) Plastid |
| v) Xylem and Phloem | e) Products formed during photosynthesis |

**Q2. Choose the Correct alternatives. Write the complete sentence against the correct question number.** [5]

i) The organ which produces urea is :
**a)** Lungs **b)** Liver **c)** Skin **d)** Kidneys

ii) ATP stands for :
**a)** Adenosine Tetraphosphate **b)** Adenine Triphosphate
**c)** Adenosine Triphosphate **d)** Adenosine Triphosphorous

iii) The process of expulsion of the urine to the outside is called :
**a)** Circulation **b)** Urination **c)** Respiration **d)** Excretion

iv) The largest part of the brain :
**a)** Cerebellum **b)** Cerebrum **c)** Medulla Oblongata **d)** Brain Stem

v) Which is not part of the neuron :
**a)** cell body **b)** axon **c)** dendrites **d)** cranium

**Q3. Draw a neatly labelled diagram of the Stomata, when opened and when closed (Title your diagrams).** [2]

a) State one function of the stomata. [1]

b) When do the stomata open and close [1]

**Q4. Answer the following questions:**

i) Define Osmoregulation [1]

ii) Differentiate between : [2]

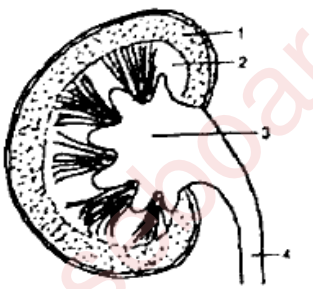
a) aerobic and anaerobic respiration (definition)

b) Sympathetic and Parasympathetic Nervous systems (function)

iii) Explain why an alcoholic is unable to coordinate his muscular movements properly [1]

iv) What does the central nervous system consist of? [2]

**Q5. The given diagram shows a section of a human kidney. Study the diagram carefully and answer the questions that follow.** [5]




i. Label the parts numbered 1 to 4

ii. Name the structural and functional unit of the kidney.

iii. State the function of part 4

iv. Name the muscular bag that stores the urine.

v. Name the organ that produces urea.

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## SECTION B CHEMISTRY (30 Marks)

(Attempt **all** questions from this section)

**Q6. Name the following :** [4]

a) A chemical reaction in which energy is absorbed.

b) A highly reactive metal kept under kerosene.

c) Another name used for an unbalanced equation.

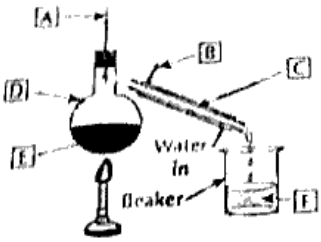
d) The yellow precipitate formed when potassium iodide and lead acetate react.

**Q7. Give Reasons for the following statements :** [2]

a) The test tube becomes hot when sodium hydroxide is added to dilute hydrochloric acid.

b) Photosynthesis is a photochemical reaction.

**Q8. Observe the image given below and answer the questions:**




a) Label the parts A to F [3]
b) Name the separation technique being demonstrated in the diagram. [1]
c) This process is used to separate what type of substances? [1]

[4]

**Q9. Balance the following equations:**

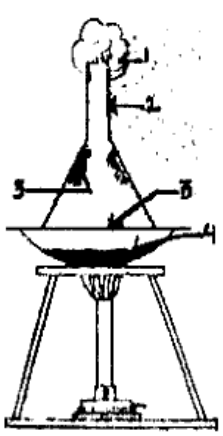
a) $N_2 + H_2 \longrightarrow NH_3$
b) $H2 + Cl_2 \longrightarrow HCl$
c) $CaO + H_2O \longrightarrow Ca(OH)_2$
d) $CO_2 + H_2O \longrightarrow C_6H_{12}O_6 + O_2$

[4]

**Q10. Fill in the blanks:**

i) A _____ alters the rate of a chemical reaction but itself remains unchanged.
ii) The gas that has a pungent smell is _____.
iii) When sodium carbonate reacts with dilute hydrochloric acid the gas evolved is _____.
iv) Copper Carbonate when heated turns _____ in colour.

**Q11. Study the diagram that shows the separation of a mixture and answer the following :** [6]




a) *Label the parts 1, 2, 4, 5, part 3 is a perforated sheet.*
b) *State the name of the method used to separate the mixture.*
c) *State the principle of this separating technique.*
d) *State one prominent observation of this method.*
e) *What is the purpose of part 1*

**Q12. Answer the following :**

i) Differentiate between Heterogenous and Homogenous mixtures (by definition and give 2 examples of each) [2]
ii) Define pure substances [1]
iii) State the chemical names for baking soda and vinegar [2]

## SECTION C PHYSICS (25 Marks)

(Attempt all questions from this section)

**Q14. Choose the Correct alternatives. Write the complete sentence against the correct question number.** [6]

I) The unit of quantity that describes pitch of sound :
**a)** Second **b)** Metre **c)** Hertz **d)** Metres/second

ii) Amplitude of a sound wave determines which characteristic of sound :
**a)** Loudness **b)** Pitch **c)** Quality **d)** Timbre

iii) If a material allows most of the light that falls on it, to pass through it, that material is said to be:
**a)** Transparent **b)** Opaque **c)** White **d)** Black

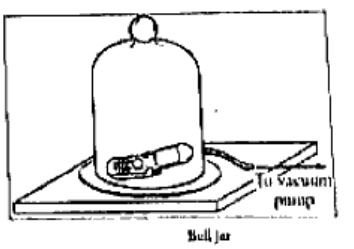
iv) The angle between the incident ray and the normal at the point of incidence is called :
**a)** Angle of emergence **b)** Angle of incidence **c)** Angle of deviation **d)** Angle of reflection

v) The interchange between left and right between and object and its image is called :
**a)** reflection **b)** refraction **c)** lateral inversion **d)** scattering

**Q15.** **Differentiate** between Real and Virtual images (any two). [4]

**Q16. Observe and explain :** [3]

A mobile phone is placed in a glass bell jar as shown in the figure below. When the phone starts ringing, it is heard loudly outside the jar.
The air from the glass jar is then pumped out through a tube as shown in the image.




(a) What will be your observation as the mobile phone rings in the glass jar while the air is slowly being pumped out of it?

(b) Explain your answer to part (a)

(c) Through which of the mediums does sound travel the fastest?

Q17. Draw a diagram of the image of a point 'P' formed by a plane mirror, $MM_1$ [2]

Q18. Numericals [Show all your calculations and workings] :

i) A man claps his hand at echo point in Mahableshwar and hears the echo of his clap after 4 seconds. If the speed of sound in his given environment was 330m/s, calculate the distance of the mountain from the man. [3½]

ii) A dolphin sends ultrasonic waves as it swims through the ocean. These waves are reflected from a block of ice in its path. If the ultrasonic sound wave takes 6 seconds to travel from the dolphin to the ice block and back, what is the distance at which the block of ice floats? (If the speed of sound water is 1500m/s). [3½]

iii) SONAR is a device. What does the word SONAR stand for? [3]

a) State one use of the SONAR and explain how it works.