



# **VETREE TUITION CENTRE**

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# **10<sup>TH</sup> IMPORTANT STUDY MATERIALS**

## **10<sup>TH</sup> SCIENCE IMPORTANT QUESTIONS QUARTERLY PORTIONS - 2023**

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## 10<sup>TH</sup> SCIENCE QUARTERLY IMPORTANT QUESTIONS

### 2 MARK – IMPORTANT QUESTIONS

1. Differentiate mass and weight (p 14)
2. Define one calorie. (p 40)
3. Define: Relative atomic mass. (p 104)
4. P 123 – vii – 2q
5. Write a short note on mesophyll (p 185)
6. What is the importance of valves in the heart? (p 215)
7. Why are thyroid hormones referred as personality hormone?(p 241)
8. 17.8.1 Structure of Human Sperm (p 250)
9. P 28 – problem 3
10. What is power of accommodation of eye? (p 30)
11. State Boyle's law (p 40)
12. State Ohm's law. – 56
13. APPLICATIONS OF AVOGADRO'S LAW 7.7 – 99
14. What do you understand by the term phenotype and genotype? – 272
15. Calculate the gram molecular mass of the following. 1) H<sub>2</sub>O 2) CO<sub>2</sub> 3) Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub> – 99
16. State the principle of moments – 14
17. Define moment of a couple – 14
18. 12.10.1 Structure of Mitochondria – 182
19. Write the dental formula of rabbit – 198
20. How is diastema formed in rabbit? – 198
21. Which is master gland? And give reasons (தலைமை சுரப்பு என அழைக்கப்படும் சுரப்பி எது? காரணம் கூறுக ) – 233
22. What are allosomes? – 272
23. Solved problem 3 – 46
24. State Newton's second law. – 14
25. Why are traffic signals red in colour? – 30
26. What is photosynthesis and where in a cell does it occur? – 185

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27. What does CNS stand for? – 198
28. What is bolting? How can it be induced artificially? – 240
29. Differentiate convex lens and concave lens. – 30
30. 8.10.3 Types of Alloys – 119
31. How are arteries and veins structurally different from one another? – 215
32. Bring out any two physiological activities of abscisic acid – 241
33. Page 14 – vii – 1
34. Why is tungsten metal used in bulbs, but not in fuse wires? – 56
35. What is rust? Give the equation for formation of rust – 122
36. State two conditions necessary for rusting of iron. - 122
37. How does leech suck blood from the host? – 198
38. P 135 – vi – 6<sup>th</sup> problem
39. Where does the carbon that is used in photosynthesis come from? – 185
40. What is the common step in aerobic and anaerobic pathway? – 185
41. Why the Sinoatrial node is called the pacemaker of heart? – 215
42. II. Problem based on mass percentage – 1 – p 132
43. VII. Solve the given problems – 1 – p 14
44. Define inertia. Give its classification – 14
45. What connection is used in domestic appliances and why? – 57
46. 8.11.2 Methods of preventing corrosion – 120
47. Draw a ray diagram to show the image formed by a convex lens when the object is placed between F and 2F. – 30
48. State-the law of volume – 40
49. Reasons for alloying – 119
50. Name the three basic tissues system in flowering plants – 185
51. How does an astronaut float in a space shuttle? – 14

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52. Write the different types of isotopes of oxygen and its percentage abundance – 104
53. What is mean by binary solution – 135
54. Draw and label the structure of oxysomes – 185
55. Define triple fusion – 258
56. Why are thyroid hormones referred as personality hormone? – 241
57. Define: Atomicity – 104
58. Define: Relative atomic mass – 104
59. 18.5.2 Types of Chromosomes based on the position of Centromere – 266
60. Classify the following substances into deliquescent, hygroscopic : Conc. Sulphuric acid, Copper sulphate penta hydrate, Silica gel, Calcium chloride, and Gypsum salt – 135
61. Who discovered Rh factor? Why was it named so? – 215
62. What is respiratory quotient? – 185
63. Write the differences between endocrine and exocrine gland. – 241
64. What are Okazaki fragments? – 272

## 3 MARK IMPORTANT QUESTIONS

1. Describe rocket propulsion – 14
2. Differentiate the eye defects: Myopia and Hypermetropia – 30
3. State Joule's law of heating – 57
4. Write notes on i) saturated solution ii) unsaturated solution & solubility – 135
5. 12.9.8 Factors Affecting Photosynthesis – 182
6. What is transpiration? Give the importance of transpiration – 215
7. Abbreviation – WHO, RCH
8. State the universal law of gravitation and derive its mathematical expression – 14

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9. List any five properties of light – 30
10. Advantages of Telescopes – 27
11. Noble gas – more to know – 111
12. Derive the ideal gas equation. 40
13. Explain smelting process – 123
14. VII. HOTS – 2 – 135
15. Explain the male reproductive system of rabbit with a labelled diagram 198
16. Enumerate the functions of blood – 215
17. Illustrate the structure and functions of brain – 228
18. With a neat labelled diagram explain the structure of a neuron – 227
19. Problems based on solubility -1 – 131
20. State Snell's law – 30
21. VIII. HOT questions – 123
22. 12.9.2 Structure of Chloroplast – 180
23. Write the physiological effects of gibberellins – 241
24. Write the events involved in the sexual reproduction of a flowering plant – 258
25. Calculate the % of each element in calcium carbonate. (Atomic mass: C-12, O-16, Ca -40) – 104
26. Define electric potential and potential difference – 56
27. Define Volume percentage – 135
28. Differentiate the following: a) Monocot root and Dicot root – 185
29. Why is the circulation in man referred to as double circulation? – 215
30. Define reflex arc – 227
31. Why are the walls of the left ventricle thicker than the other chambers of the heart? – 215
32. VI. Calculation based on % composition (p 102): Calculate % of S in H<sub>2</sub>SO<sub>4</sub>
33. What is the role of the earth wire in domestic circuits? – 56
34. Define alloy
35. Uses of Copper Alloys (Non-ferrous) – 119

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36. **Classify neurons based on its structure – 228**
37. **Why did Mendel select pea plant for his experiments? – 272**
38. **VIII. HOT question – 1q (104)**
39. **Why a spanner with a long handle is preferred to tighten screws in heavy vehicles? – 14**
40. **In these appliances Nichrome, which is an alloy of Nickel and Chromium is used as the heating element. Why? | Answer: Because: (i) it has high resistivity, (ii) it has a high melting point, (iii) it is not easily oxidized – 50**
41. **Define corrosion and types of corrosion – 120**
42. **The aquatic animals live more in cold region Why? – 135**
43. **List out the parasitic adaptations in leech – 198**
44. **VIII. Numerical Problems – 1q – 30**
45. **What are the advantages of LED TV over the normal TV? & List the merits of LED bulb – 57**
46. **Distinguish between ideal gas and real gas – 40**
47. **Give the salient features of “Modern atomic theory” – 104**
48. **What do you understand by the term phenotype and genotype? – 272**
49. **Give an example each i) gas in liquid ii) solid in liquid iii) solid in solid iv) gas in gas – 135**
50. **Differentiate the following: a) Monocot root and Dicot root & b) Aerobic and Anaerobic respiration – 185**
51. **Name the parts of the hind brain – 227**
52. **Where are estrogens produced? What is the role of estrogens in the human body? – 241**
53. **Distinguish between linear, arial and superficial expansion – 40**
54. **In what way hygroscopic substances differ from deliquescent substances – 135**
55. **What is aqueous and non-aqueous solution? Give an example – 135**
56. **Table 14.1 Differences between Artery and Vein – 206**
57. **What are synthetic auxins? Give examples – 240**
58. **18.6.3 Significance of DNA – 268**

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59. Figure 17.10 Structure of an Ovule – 246

## 5 MARK IMPORTANT QUESTIONS

1. Define inertia. Give its classification. What are the types of inertia? Give an example for each type – 14
2. List any five properties of light. What are the causes of 'Myopia'? – 30
3. What is Molar volume of a gas? Define: Atomicity – 104 & Avogadro's law – 98 (7.6 heading – 2<sup>nd</sup> paragraph)
4. Give the salient features of "Modern atomic theory" – 104
5. With a neat labelled diagram explain the structure of a neuron – 227
6. Write the events involved in the sexual reproduction of a flowering plant. a. Discuss the first event and write the types. b. Mention the advantages and the disadvantages of that event – 258
7. Explain the construction and working of a 'Compound Microscope' & State Snell's law. – 30
8. Calculate the current and the resistance of a 100 W, 200 V electric bulbs in an electric circuit – 54
9. Name the acid that renders aluminium passive. Why? – 123
10. Table 9.3 – first point – 131
11. Classify neurons based on its structure – 228 & Why is blood red in color? & Name two layered protective covering of human heart (214)
12. How is the structure of DNA organized? What is the biological significance of DNA? – 272
13. State and prove the law of conservation of linear momentum – 14
14. What is meant by electric current? b) Name and define its unit. c) Which instrument is used to measure the electric current? How should it be connected in a circuit? – 57

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15. State the reason for addition of caustic alkali to bauxite ore during purification of bauxite – 123
16. What happens when  $MgSO_4 \cdot 7H_2O$  is heated? Write the appropriate equation – 135
17. Explain the male reproductive system of rabbit with a labelled diagram – 198
18. Explain with an example the inheritance of dihybrid cross. How is it different from monohybrid cross? - 272
19. Draw a ray diagram to show the image formed by a convex lens when the object is placed between  $F$  and  $2F$  – 30
20. Define: Relative atomic mass – 104
21. Write notes on various factors affecting solubility – 135
22. What are the advantages of LED TV over the normal TV? & List the merits of LED bulb – 57
23. Give any two examples for heterodiatomic molecules – 104
24. Distinguish between the resistivity and conductivity of a conductor – 56
25. Table 7.5 – difference between atoms and molecules – 96
26. 7.7 APPLICATIONS OF AVOGADRO'S LAW – 99
27. Write notes on i) saturated solution ii) unsaturated solution – 135
28. Name the gaseous plant hormone. Describe its three different actions in plants. (b) Which hormone is known as stress hormone in plants? Why? – 241
29. 18.6.1 Watson and Crick model of DNA – 267
30. 1.4.1 Newton's First Law – 3
31. 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? – 272
32. Uses of Copper – 117
33. Derive the relationship between Relative molecular mass and Vapour density – 104





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34. With the help of a circuit diagram derive the formula for the resultant resistance of three resistances connected: a) in series and b) in parallel – 57
35. What are the phases of menstrual cycle? Indicate the changes in the ovary and uterus – 258
36. With a neat labelled diagram describe the parts of a typical angiospermic ovule – 258
37. Explain the rules for obtaining images formed by a convex lens with the help of ray diagram – 30
38. Explain about domestic electric circuits. (circuit diagram not required) – 57
39. Explain the experiment of measuring the real and apparent expansion of a liquid with a neat diagram – 40
40. In what way hygroscopic substances differ from deliquescent substances – 135
41. Explain the structure of a chromosome – 272 & 18.5.3  
Types of Chromosomes based on function – 266