



WAY TO SUCCESS

Leads to Success 

10th Standard

Science

First Revision 2023

**Various District
Question Paper Collection**

FIRST REVISION TEST - 2023

SCIENCE

Thanjavur 1st Revision 2023

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Marks : 75

PART - I

Note : i) Answer all the questions. ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.

12 X 1 = 12

- The unit of electrical energy is
a) Watt b) Kilowatt hour c) Ampere d) Ohm
- If a sound wave travels with a frequency of $1.25 \times 10^3 \text{ Hz}$ at 344 m s^{-1} , the wave length will be
a) 27.52m b) 275.2m c) 0.02752m d) 0.2752m
- Proton - proton chain reaction is an example of
a) Nuclear fission b) α - decay c) nuclear fusion d) β - decay
- 25% alcohol solution means
a) 25 alcohol in 100 ml of water b) 25 ml alcohol in 25ml of water
c) 25ml alcohol in 75ml water d) 75ml alcohol in 25ml of water
- Photolysis is a decomposition reaction caused by
a) heat b) electricity c) light d) mechanical energy
- The body of leach has
a) 23 segments b) 33 segments c) 38 segments d) 30 segments
- Vomitting centre is located in
a) Medulla oblongata b) stomach c) Cerebrum d) Hypothalamus
- Hormone which is called as 'Time messages'
a) prolactin b) melatonin c) Oxytocin d) Thyroxin
- Estrogen is secreted by
a) Anterior pituitary b) Primary follicle c) Graffian follicle d) corpus luteum
- The 'use and disuse theory' was proposed by
a) Charles Darwin b) Ernst Haeckel c) Jean Baptise Lamarck d) Gregor Mendel
- Polyphagia is a condition seen in
a) Obesity b) diabetes mellitus c) Diabetes insipidus d) AIDS
- Which software is used to create animation?
a) paint b) PDF c) Ms- word d) scratch

PART - II

Note : Answer any seven questions. Question No. 22 is Compulsory.

7 x 2 = 14

- Mark the correct choice.
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) If both assertion and reason 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.
- Explain why, the ceilings of concert halls are curved?
- True or false. If false give the correct statement.**
a) Moseley's periodic table is based on atomic mass.
b) All ores are minerals ; but all minerals cannot be called as ores.

16. **Fill in the blanks.**

- a) The equilibrium attained during the melting of ice is known as
b) Chemical Volcano is an example for type of reaction.

17. Why is the colour of blood red?

18. Name the gaseous plant hormone. Discuss its two different actions in plants.

19. **Match the following.**

- a) autosomes - 9 : 3 : 1
b) Diploid condition - 22 pair of chromosomes
c) Allosome - 2n
d) Dihybrid ratio. - 23rd pair of chromosome

20. State the applications of DNA finger printing technique.

21. Expand the following abbreviation.

- a) BMI b) AIDS c) HIV d) EHD

22. A charge of 12 coulomb flows through a bulb in 6 second. What is the current through the bulb?

PART - III

Note : Answer any seven questions. Questions No. 32 is compulsory.

23. Give the applications of universal law of gravitation. 7 x 4 = 28

24. Give any four uses of radio isotopes in the field of medicine.

25. Write short note on www.kalviexpress.in

- a) Saturated solution b) Unsaturated solution

26. Arrive at, systematically, the IUPAC name of the compound
 $\text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{OH}$.

27. Explain the male reproductive system of rabbit with a labelled diagram.

28. Classify neurons based on its structure.

29. Explain Gynocium of flowering plants.

30. Explain chromosome types based on the position of centromere.

31. Define Ethnobotany and write its importance.

32. How many grams are there in the following?

- a) 2 moles of hydrogen molecule.
b) 5 mole of sulphur molecule.

PART - IV

Note : Answer all the questions. Draw diagrams wherever necessary.

33. a) Derive the ideal gas equation. b) Define one kilo calorie. (OR) 3 x 7 = 21
What is an echo?

- a) State two conditions necessary for hearing an echo.
b) What are the medical applications of echo?
c) How can you calculate the speed of sound using echo?

34. a) Explain the method of preventing metal corrosion.
b) Name the acid that renders aluminium passive. Why?
c) Identify the bond between H and F in HF molecule. (OR)

- a) Explain the factors influencing the rate of a reaction.
b) If the pH of solution is 4.5, What is its pOH ?

35. a) Differentiate : Aerobic and Anaerobic respiration.
b) Why are the factors affecting photosynthesis. (OR)
Enumerate the importance of forest.

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PART - I

Choose the best answer

12x1 = 12

- If the Earth Shrinks to 50% of its real radius its mass remaining the same, the weight of a body on the Earth will.....
a) decrease by 50% b) increase by 50%
c) decrease by 25% d) increase by 300%
- Magnification of a convex lens is.....
a) Positive b) negative c) either positive or negative d) zero
- In a simple circuit, why does the bulb glow when you close the switch?
a) The switch produces electricity b) closing the switch completes the circuit
c) closing the switch breaks the circuit d) the bulb is getting charged
- aprons are used to protect us from gamma radiations
a) Lead oxide b) Iron c) lead d) aluminium
- Which of the following represent 1 amu?
a) mass of a ^{12}C atom b) mass of a hydrogen atom
c) $\frac{1}{12}$ th of the mass of a ^{12}C atom d) mass of ^{16}O atom
- The basis of modern periodic law is.....
a) atomic number b) atomic mass c) isotopic mass d) number of neutrons
- The number of components in a binary solution is.....
a) 2 b) 3 c) 4 d) 5
- The secondary suffix used in IUPAC nomenclature of an aldehyde is.....
a) -ol b) -oic acid c) -al d) -one
- Krebs's cycle takes place in.....
a) chloroplast b) mitochondrial matrix
c) stomata d) inner mitochondrial membrane
- The segments of leech are known as.....
a) metameres b) proglottids c) strobila d) all the above
- To increase the sugar production in sugar canes they are sprayed with.....
a) auxin b) cytokinin c) gibberellins d) Ethylene
- The..... units form the backbone of the DNA
a) 5 carbon sugar b) phosphate c) nitrogenous bases d) sugar phosphate

Part - II

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

7x2 = 14

- State Newton's second law
- True or false (If false give the correct statement)
i) The gram atomic mass of an element has no unit ii) Molar mass of CO_2 is 42g
- Answer the following questions using the data given below
i) A and R are correct, R explains the A
ii) A is correct, R is wrong iii) A is wrong, R is correct iv) A and R are correct, explain A
Assertion: An uncleaned copper vessel is covered with a greenish layer
Reason: copper is not attacked by alkali

16. Differentiate reversible and irreversible reactions
17. Draw and label the structure of oxysomes
18. What is the shape of RBC in human blood?
19. How can you determine the age of the fossils?
20. Mention the diseases caused by tobacco smoke
21. What is stage?
22. If you keep ice at 0°C and water at 0°C in either of your hands in which hand you will feel more chilliness? why?

PART - III

III. Answer any 7 question (question no 32 is compulsory)

23. List any four properties of light
24. Distinguish between the resistivity and conductivity of a conductor
25. a) Name three animals which can hear ultrasonic vibration b) Explain why, ceilings of concert halls are curved
26. Give an example each
i) gas in liquid ii) solid in liquid iii) solid in solid iv) gas in gas
27. How is ethanoic acid prepared from ethanol? given the chemical equation
28. Match columns, I, II and III correctly

| I | II | III |
|--------|---------------------|-----------------------------|
| Organs | Membranous covering | location |
| Brain | Pleura | abdominal cavity |
| Kidney | Capsula | mediastinum |
| Heart | Meninges | enclosed in thoracic cavity |
| Lungs | Pericardium | Cranial cavity |

29. Myelinated and non-myelinated nerve fibre - Differentiate
30. Write the characteristic of insect Pollinated flowers
31. state the applications of DNA fingerprinting technique
32. What is the pH of 1.0×10^{-3} Molar solution of KOH?

PART - IV

IV Answer all the question

33. Describe rocket propulsion (or)
What is a nuclear reactor? Explain its essential parts with their function
34. Given the salient features of " modern atomic theory" (or)
a) state the reason for additions of caustic alkali to bauxite are during purification of bauxite
b) Along with cryolite and alumina, another substance is added to the electrolyte mixture. name the substance and give one reason for the addition
35. Describe and name three stages of cellular respiration that aerobic organisms use to obtain energy from glucose (or)
a) Tidal energy is..... type of energy
b) What will happen if trees are cut down?
c) What are the advantages of using biogas?



Standard 10

SCIENCE

Time: 3.00 Hrs.

Maximum Marks: 75

PART - I

Note: i) Answer all questions.

12×1=12

ii) Choose the most suitable answer.

- 1) The eye defect 'presbyopia' can be corrected by
a) Convex lens b) Concave lens c) Convex mirror d) Bi focal lenses
- 2) The value of universal gas constant
a) $3.81 \text{ J mol}^{-1} \text{ K}^{-1}$ b) $8.03 \text{ J mol}^{-1} \text{ K}^{-1}$
c) $1.38 \text{ J mol}^{-1} \text{ K}^{-1}$ d) $8.31 \text{ J mol}^{-1} \text{ K}^{-1}$
- 3) The frequency which is audible to the human ear is
a) 50 KHz b) 20 KHz c) 15000 KHz d) 10000 KHz
- 4) The gram molecular mass of oxygen molecule is
a) 16g b) 18g c) 32g d) 17g
- 5) White enamel coating of our teeth is _____, the hardest substance in our body.
a) Sodium phosphate b) Calcium phosphate
c) Potassium phosphate d) Ammonium phosphate
- 6) Which of the following are used as anaesthetics?
a) Carboxylic acids b) Ethers
c) Esters d) Aldehydes
- 7) Which is formed during anaerobic respiration?
a) Carbohydrate b) Ethyl alcohol c) Acetyl CoA d) Pyruvate
- 8) Which one of the following is an IUCD?
a) Copper - T b) Oral pills c) Diaphragm d) Tubectomy
- 9) The term 'chromosomes' was first coined by
a) T.H. Morgan b) R.C. Punnett
c) Waldeyer d) Watson and Crick
- 10) Pusa Komal is a disease resistant variety of _____.
a) Sugarcane b) Rice c) Cow pea d) Maize
- 11) Pocso Act is introduced in the year
a) 2012 b) 2010 c) 2008 d) 2015
- 12) A renewable source of energy is
a) Petroleum b) Coal c) Nuclear fuel d) Trees

PART - II

Answer any 7 questions: [Q.No. 22 is compulsory]

7×2=14

- 13) State Newton's second law.
- 14) Why does the sky appear in blue colour?
- 15) Define one calorie.
- 16) Give any two uses of ethanol.
- 17) Draw the structure of sperm and label the parts.
- 18) What is photosynthesis and where in a cell does it occur?
- 19) What are synthetic auxins? Give examples.

- 20) Define triple fusion.
 21) How is a cancer cell different from a normal cell?
 22) Calculate the amount of energy released when a radioactive substance undergoes fusion and results in a mass defect of 2 kg.

$$E = mc^2$$

$$2 \times 3 \times 10^3 \text{ m/s} \times 17$$

$$2 \times 10^8 \times 1.8 \times 10^8 \text{ J}$$

$$7 \times 4 = 28$$

PART - III

Answer any 7 questions: [Q.No. 32 is compulsory]

- 23) What are the types of inertia? Give an example for each type.
 24) List the merits of LED bulb.
 25) Write any four features of natural and artificial radioactivity.
 26) Derive the relationship between Relative molecular mass and vapour density.
 27) Classify the following compounds based on the pattern of carbon chain and give their structural formula (i) Propane (ii) Benzene (iii) Cyclobutane (iv) Furan.
 28) a) List out the parasitic adaptations in leech.
 b) Who discovered Rh factor? Why was it named so?
 29) With a neat labelled diagram explain the structure of a neuron.
 30) Write the physiological effects of gibberellins.
 31) a) What is evolution?
 b) Discuss the importance of biotechnology in the field of medicine.
 32) Calculate the current and the resistance of a 100W, 200V electric bulb in an electric circuit.

$$0.5 \text{ A} \text{ \& } 400 \Omega$$

PART - IV

Answer ALL questions. Each question carries seven marks:

$$3 \times 7 = 21$$

[Draw diagram wherever necessary]

- 33) a) List any five properties of light.
 b) State Snell's law. (OR)
 a) What do you understand by the term 'ultrasonic vibration'?
 b) State three uses of ultrasonic vibrations.
 c) Name four animals which can hear ultrasonic vibrations.
 34) a) In what way hygroscopic substances differ from deliquescent substances.
 b) What is meant by binary solution?
 c) Define solubility. (OR)
 a) Explain the types of double displacement reactions with examples.
 b) If the pH of a solution is 4.5, what is its pOH?
 35) a) How is the structure of DNA organised? What is the biological significance of DNA?
 b) What are Okazaki fragments? (OR)
 a) What are the various routes by which transmission of human immuno deficiency virus takes place?
 b) What are the contributing factors of obesity?
 c) How do you differentiate homologous organs from analogous organs?

STD - X

TIME : 3.00 Hrs

Thiruppattur

SCIENCE

MARKS : 75

SECTION - A

I. Choose the correct answer :

12 x 1 = 12

- Unit of radioactivity is
a) Roentgen b) curie c) Becquerel d) All the above
- Which of the following denotes the high temperature?
a) 1 celsius b) 1 kelvin c) 1 Fahrenheit d) All are equal
- Inertia of a body depends on
a) weight of the object b) acceleration due to gravity of the planet
c) mass of the object d) Both a & b
- Which of the following is a triatomic molecule?
a) Glucose b) Helium c) Carbon dioxide d) Hydrogen
- Molecular formula of Blue vitriol is
a) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ b) Gypsum c) CaO d) $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
- TFM in soaps represents content in soap.
a) mineral b) vitamin c) fatty acid d) carbohydrate
- Which is formed during anaerobic respiration
a) Carbohydrate b) Ethyl alcohol c) Acetyl CoA d) Pyruvate
- Which of the following shows correct composition of blood?
a) plasma - blood + lymphocyte b) serum - blood + Fibrinogen
c) Lymph - plasma + RBC + WBC d) Blood - plasma + RBC + WBC + platelets
- To increase the sugar production in sugarcane, they are sprayed with
a) Auxin b) cytokinin c) Gibberellins d) Ethylene
- The units form the backbone of the DNA
a) 5 carbon sugar b) phosphate c) Nitrogenous base d) sugar phosphate
- Pusa Komal is a disease resistant variety of
a) Sugarcane b) Rice c) Cowpea d) Maize
- A cheap, conventional, commercial and inexhaustible source of energy is
a) Hydropower b) Solar energy c) Wind energy d) Thermal energy

SECTION - B

II. Answer any seven Questions. Q.No. 22 is compulsory

7 x 2 = 14

- State whether the following statements are true or false, if false explain why?
a) According to Charles's law, at constant pressure, the temperature is inversely proportional to volume.
b) S.I. unit of temperature is kelvin.
- State Soddy and Fajan's displacement law.
- Match the following :

| | | |
|----------------------|---|-------------------------|
| a) Galvanisation | - | Noble gas elements |
| b) Redox reaction | - | coating with Zn |
| c) Dental filling | - | Silver-tin amalgam |
| d) Group 18 elements | - | Alumino thermic process |

16. Differentiate reversible and irreversible reactions.
 17. How is diastema formed in Rabbit?
 18. Draw and label the structure of oxysome.
 19. The complete events of cardiac cycle last for 0.8 sec. What is the timing for each event?
 20. How can you determine the age of the fossils?
 21. What is stage?
 22. Calculate the current through a 100w, 200v electric bulb in an electric circuit of your house.

SECTION - C

Answer any seven Questions. Q.No. 32 is compulsory

7 x 4 = 28

23. Describe rocket propulsion.
 24. a) State Joule's law of heating. b) How does a fuse wire protect electrical appliances?
 25. a) A is a silvery white metal. A combines with O_2 to form B at $800^\circ C$, the alloy of A is used in making the aircraft. Find A and B.
 b) What is rust? Give the equation for formation of rust.
 26. What is a chemical equilibrium? What are its characteristics?
 27. Write the importance of transpiration.
 28. a) What is respiratory quotient? b) Write the overall equation of photosynthesis.
 29. How nerve impulses are transferred from one neuron to next neuron?
 30. Why is euploidy considered to be advantages to both plants and animals?
 31. With a neat labelled diagram, explain the techniques involved in gene cloning.
 32. A solution is prepared by dissolving 45g of sugar in 180g of water. Calculate the mass percentage of solute.

SECTION - D

Answer all the Questions in detail.

3 x 7 = 21

33. a) (i) What is an echo? (1)
 (ii) State two conditions necessary for hearing an echo. (2)
 (iii) What are the medical applications of echo? (2)
 (iv) How can you calculate the speed of sound using echo? (2) (OR)
 b) (i) What is power of accommodation of eye? (2)
 (ii) Differentiate the eye defects : Myopia and Hypermetropia. (3)
 (iii) What is the value of the near point and far point of the human eye? (2)
 34. a) (i) Define Atomicity (2)
 (ii) Give the salient features of "Modern atomic theory". (5) (OR)
 b) (i) Differentiate soaps and detergents. (3)
 (ii) Explain the mechanism of cleaning action of soap. (4)
 35. a) (i) What are the phases of menstrual cycle?. Indicate the changes in the ovary and uterus. (5)
 (ii) What is the role of parathormone? (2) (OR)
 b) (i) Changes in lifestyle is a risk factor for occurrence of cardiovascular diseases. Can it be modified? If yes suggest measures for prevention. (5) (OR)
 (ii) Solar energy is a renewable energy. How? (2)

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10 - Std
Time : 3.00 Hrs.

Marks : 75

Part - I

Answer all the questions.

12 X 1 = 12

1. One kilogram force equals to
a) 9.8 dyne b) 9.8×10^4 N c) 980 dyne d) 9.8×10^4 dyne
2. SI unit of resistance is
a) mho b) joule c) ohm d) ohmmeter
3. In the nuclear reaction ${}_6^{A12} \xrightarrow{\alpha\text{-decay}} {}_Z^{Y4}$ the value of A & Z
a) 8, 6 b) 8, 4 c) 4, 8 d) 12, 6
4. Atoms of different elements having same number of are called isotones.
a) neutrons b) atomic number c) atomic mass d) protons
5. Among the given species A^- , A^+ and A , the smallest one in size is
a) A^- b) A^+ c) A d) 0
6. When pressure is increased at constant temperature, the solubility of gases in liquid
a) no change b) increases c) decreases d) no reaction
7. The endarch condition is the characteristic feature of
a) root b) stem c) leaves d) flower
8. Nerve cells do not possess
a) neurilemma b) sarcolemma c) axon d) dendrites
9. LH is secreted by
a) Adrenal gland b) Thyroid gland c) Anterior pituitary d) Hypothalamus
10. A sexual reproduction takes place through budding in
a) amoeba b) yeast c) plasmodium d) bacteria
11. The units form the backbone of the DNA.
a) 5 carbon sugar b) phosphate c) Nitrogenous bases d) sugar phosphate
12. All files are stored in the
a) folder b) box c) paint d) scanner

Part - II

Answer any seven questions. (Q.No. 22 is compulsory)

7 X 2 = 14

13. Why does the sky appear in blue colour?
14. Define critical mass.
15. What is aqueous and non-aqueous solution? Give an example.
16. If the pH value of solution is zero then what will be the nature of the solution? Give reason.
17. Draw the label the structure of oxysomes.
18. How does leech suck blood from the host?

WAY TO SUCCESS

19. Who discovered Rh factor? Why was it named so?
20. What is pollination?
21. What do you understand by the term phenotype and genotype?
22. A torch bulb is rated at 3v and 600mA. Calculate its resistance.

Part - III

Answer any seven questions. (Q.No. 32 is compulsory)

7 X 4 = 28

23. i) **Fill up :** a) Opening a door : Moment of force, opening a water tap :
b) Pushing a bus by a group of people : Like parallel forces,
Tug of war :
ii) The power of a lens is -2D. Find the focal length of a lens.
24. **Match it :**
a) Electric current - Volt
b) Potential difference - Ohm meter
c) Resistivity - Watt
d) Electric power - Ampere
25. Difference between the sound and light waves.
26. a) Define - Relative Atomic Mass. b) Give any two examples for hetero diatomic molecules.
27. How do detergents cause water pollution? Suggest remedial measures to prevent this pollution.
28. i) Why are the rings of cartilages found in trachea of rabbit?
ii) Define reflex arc.
29. Draw the external structure of human heart and label the parts.
30. Define Ethnobotany and write its importance.
31. Explain about Gene therapy.
32. a) Give the function of control rods in a nuclear reactor.
b) Calculate the pH of 1.0×10^{-4} molar solution of HNO_3 .

Part - IV

Answer all the questions. Draw diagrams wherever necessary.

3 X 7 = 21

33. a) i) State Newton's law of motion. (5)
ii) Write the uses of Telescope. (2) **(OR)**
b) Compare the properties of Alpha, beta, and gamma radiations.
34. a) i) Give the salient features of 'modern atomic theory'. (5)
ii) Write any two applications of 'Avogadro's law'. (2) **(OR)**
b) What is called homologous series? Give its characteristics.
35. a) i) What is respiratory quotient? (2)
ii) What is eothesion? (2)
iii) What are the effects of hybrid rigour in animals? (3) **(OR)**
b) i) What are the various routes by which transmission of human immuno deficiency virus takes place? (3) ii) Enumerate the importance of forest. (4)

RMI 10 - அறிவியல் (EM) பக்கம் -2

COMMON FIRST REVISION TEST - 2023

Standard X

Reg.No.

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SCIENCE

Part - I

Marks: 75

12 x 1 = 12

Time: 3.00 hours

I Choose the correct answer

1. Impulse is equals to
 - a) rate of change of momentum
 - b) rate of force and time
 - c) change of momentum
 - d) rate of change of mass
2. Kilowatt hour is a unit of
 - a) resistivity
 - b) conductivity
 - c) electrical energy
 - d) electrical power
3. The frequency which is audible to the human ear is
 - a) 50 KHz
 - b) 20 KHz
 - c) 15000 KH
 - d) 10000 KHz
4. Gamma radiations are dangerous because
 - a) it affects eyes and bones
 - b) It affect tissues
 - c) it produce genetic disorder
 - d) it produces enormous amount of heat
5. Which of the following have inert gases 2 electrons in the outermost shell?
 - a) He
 - b) Ne
 - c) Ar
 - d) Kr
6. The secondary suffix used in IUPAC nomenclature and aldehyde is _____.
 - a) -ol
 - b) -oic acid
 - c) -al
 - d) -one
7. Which of the following is hydroscopic in nature?
 - a) ferric chloride
 - b) copper sulphate pentahydrate
 - c) silica gel
 - d) none of the above
8. Which of the following are used as anaesthetics?
 - a) carboxylic acid
 - b) ethers
 - c) esters
 - d) aldehydes
9. Which one of the following hormones is naturally not found in plants?
 - a) 2,4-D
 - b) GA₃
 - c) Gibberellin
 - d) IAA
10. The 'Use and disuse Theory' was proposed by _____.
 - a) Charles Darwin
 - b) Ernst Haeckel
 - c) Jean Baptiste Lamarck
 - d) Gregor Mendel
11. Polyphapia is a condition seen in _____.
 - a) obesity
 - b) diabetes mellitus
 - c) diabetes insipidus
 - d) AIDS
12. Global warming will cause
 - a) raise in level of oceans
 - b) melting of glaciers
 - c) sinking of islands
 - d) all of these

Part - II

II. Answer any 7 questions: (Q.No.22 is compulsory)

7 x 2 = 14

13. State Newton's second law.
14. Define Dispersion of light.
15. Distinguish between ideal gas and real gas.

16. Define Atomicity.
17. What is rust? Give the equations for formation of rust.
18. Why does the reaction rate of a reaction increases on raising the temperature?
19. Why should the light dependent reaction occur before the light independent reaction?
20. How are arteries and veins structurally different from one another?
21. Differentiate between medullated and a non-medullated nerve fibre.
22. If a 5 N and 15 N forces are acting opposite to one another. Find the resultant force and the direction of action of the resultant force.

Part - III

III. Answer any 7 questions: (Q.No.32 is compulsory)

7 x 4 = 28

23. Why a spanner with a long handle is preferred to tighten screws in heavy vehicles?
24. Draw a ray diagram to show the image formed by a convex lens when the object is placed between f and 2f.
25. Write any three features of natural and artificial radioactivity.
26. Give an example each :
 - a) gas in liquid b) solid in liquid c) solid in solid d) gas in gas
27. a) The aquatic animals live more in cold region. Why?
 b) Classify the following substances into deliquescent hygroscopic, conc. sulphuric acid, copper sulphate penta hydrate, silica gel, calcium chloride and gypsum salt.
28. How do detergents cause water pollution? Suggest remedial measures to prevent this pollution.
29. Draw and label the structure of oxysomes.
30. What are Okazaki fragments?
31. What is the importance of rain water harvesting?
32. The hydroxide ion concentration of a solution is 1×10^{-11} M. What is the pH of the solution?

Part - IV

IV. Answer all the questions:

3 x 7 = 21

33. a) Derive the ideal gas equation.

(OR)

- b) What is nuclear reactor? Explain its essential parts and their functions.

34. a) Give the salient features of "Modern atomic theory"

(OR)

- b) Explain the types of double displacement reaction with example.

35. a) With a neat labelled diagram, describe the parts of a typical angiospermic ovule.

(OR)

- b) How is the structure of DNA organised? What is the biological significance of DNA?

Ts10S

Tenkasi District Common Examinations
Common First Revision Examination - January 2023



27-01-2023

Standard 10

Time: 3.00 Hours

SCIENCE

Marks: 75

PART - I**I. Answer all the questions.****12 × 1 = 12**

Choose the most suitable answer and write the code with the corresponding answer.

- 1) Impulse is equals to
 - a) rate of change of momentum
 - b) rate of change of force and time
 - c) change of momentum
 - d) rate of change of mass
- 2) Power of a lens is $-4D$, then its focal length is
 - a) 4 m
 - b) -40 m
 - c) -0.25 m
 - d) -2.5 m
- 3) Proton - proton chain reaction is an example of
 - a) Nuclear fission
 - b) Nuclear fusion
 - c) α -decay
 - d) β -decay
- 4) In the alumino thermic process the role of Al is
 - a) oxidizing agent
 - b) reducing agent
 - c) hydrogenating agent
 - d) Sulphurising agent
- 5) Which of the following is hygroscopic in nature?
 - a) ferric chloride
 - b) copper sulphate penta hydrate
 - c) Silica gel
 - d) None of the above
- 6) Powdered $CaCO_3$ reacts more rapidly than flaky $CaCO_3$ because of
 - a) Large surface area
 - b) high pressure
 - c) high concentration
 - d) high temperature
- 7) Oxygen is produced at what point during photosynthesis.
 - a) When ATP is converted to ADP
 - b) When CO_2 is fixed
 - c) When H_2O is splitted
 - d) All of these
- 8) Bipolar neurons are found in
 - a) retina of eye
 - b) Cerebral cortex
 - c) embryo
 - d) respiratory epithelium
- 9) Which organ act as both exocrine as well as endocrine gland?
 - a) Pancreas
 - b) Kidney
 - c) Liver
 - d) Lungs
- 10) Anemophilous flowers have
 - a) Sessile stigma
 - b) Small smooth stigma
 - c) Coloured flower
 - d) Large feathery stigma
- 11) The miracle rice which saved millions of lives and celebrated its 50th birthday is
 - a) IR 8
 - b) IR 24
 - c) Atonita 2
 - d) Ponni
- 12) All files are stored in the
 - a) Folder
 - b) box
 - c) Pal
 - d) scanner

PART - II**II. Answer any 7 questions. Q.No. 22 is compulsory.****7 × 2 = 14**

- 13) Define moment of a couple
- 14) Why are traffic signals red in colour?
- 15) Why is tungsten metal used in bulbs, but not in fuse wires?
- 16) Define the term : Solution
- 17) Differentiate reversible and irreversible reactions?

19) Match the following

Column I**Column II**

- | | | |
|--------------------|---|------------------------------|
| 1. Nissli granules | - | a. Forebrain |
| 2. Hypothalamus | - | b. Peripheral nervous system |
| 3. Cerebellum | - | c. cyton |
| 4. Schwann cell | - | d. Hind brain |

- 20) Draw the structure of gynoecium and label its parts.
 21) Define genetic engineering
 22) The work done in moving a charge of 10c across two points in a circuit is 100 J. What is the potential difference between the points.

PART - III**III. Answer any 7 questions. Q.No. 32 is compulsory.****7 × 4 = 28**

- 23) Describe rocket propulsion.
 24) i. Distinguish between ideal gas and real gas
 ii. Name any two devices, which are working on the heating effect of electric current.
 25) i. Mention the two cases in which there is no Doppler effect in sound?
 ii. How are e-wastes generated?
 26) In what way hygroscopic substances differ from deliquescent substances.
 27) Classify the following compounds based on the pattern of carbon chain and give their structural formula.
 i) Propane ii) Benzene iii) Cyclobutane iv) Furan
 28) Write a short note on mesophyll.
 29) How are arteries and veins structurally different from one another?
 30) i) Define triple fusion
 ii) What are Okazaki fragments?
 31) What are the various routes by which transmission of human immunodeficiency virus takes place?
 32) Calculate the number of water molecules present in one drop of water which weighs 0.18g.

PART - IV**IV. Answer All the questions. Each question carries seven marks.****Draw diagram wherever necessary.**

SIVAKUMAR M, 3 × 7 = 21

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(OR) Vallam - 627809

- 33) a) Derive the ideal gas equation.
 b) What are the factors that affect the speed of sound in gases.
 34) a) i) Give the salient features of "Modern atomic theory".
 ii) What is molar volume of a gas. Tenkasi Dist.
 (OR)
 b) i) What happens when $MgSO_4 \cdot 7H_2O$ is heated write the appropriate equation.
 ii) Define solubility.
 iii) Name the simplest ketone and give its structural formula.
 35) a) i) Who discovered R_h factor? Why was it named so?
 ii) What is bolting? How can it be induced artificially.
 iii) The degeneration of a kiwi is an acquired character. Why is it an acquired character?

(OR)

- b) Explain the male reproductive system of rabbit with a labelled diagram.

COMMON FIRST REVISION TEST - 2023

Standard X
SCIENCE
Part - I

Reg.No.

Marks: 75
12 x 1 = 12

Time: 3.00 hours

I Choose the correct answer

1. Impulse is equals to
 - a) rate of change of momentum
 - b) rate of force and time
 - c) change of momentum
 - d) rate of change of mass
2. Kilowatt hour is a unit of
 - a) resistivity
 - b) conductivity
 - c) electrical energy
 - d) electrical power
3. The frequency which is audible to the human ear is
 - a) 50 KHz
 - b) 20 KHz
 - c) 15000 KH
 - d) 10000 KHz
4. Gamma radiations are dangerous because
 - a) it affects eyes and bones
 - b) It affect tissues
 - c) it produce genetic disorder
 - d) it produces enormous amount of heat
5. Which of the following have inert gases 2 electrons in the outermost shell?
 - a) He
 - b) Ne
 - c) Ar
 - d) Kr
6. The secondary suffix used in IUPAC nomenclature and aldehyde is _____.
 - a) -ol
 - b) -oic acid
 - c) -al
 - d) -one
7. Which of the following is hydroscopic in nature?
 - a) ferric chloride
 - b) copper sulphate pentahydrate
 - c) silica gel
 - d) none of the above
8. Which of the following are used as anaesthetics?
 - a) carboxylic acid
 - b) ethers
 - c) esters
 - d) aldehydes
9. Which one of the following hormones is naturally not found in plants?
 - a) 2,4-D
 - b) GA
 - c) Gibberellin
 - d) IAA
10. The 'Use and disuse Theory' was proposed by _____.
 - a) Charles Darwin
 - b) Ernst Haeckel
 - c) Jean Baptiste Lamarck
 - d) Gregor Mendel
11. Polyphapia is a condition seen in _____.
 - a) obesity
 - b) diabetes mellitus
 - c) diabetes insipidus
 - d) AIDS
12. Global warming will cause
 - a) raise in level of oceans
 - b) melting of glaciers
 - c) sinking of islands
 - d) all of these

Part - II

II. Answer any 7 questions: (Q.No.22 is compulsory)

13. State Newton's second law.
14. Define Dispersion of light.
15. Distinguish between ideal gas and real gas.

7

16. Define Atomicity.

(2)

17. What is rust? Give the equations for formation of rust.

x 500

18. Why does the reaction rate of a reaction increases on raising the temperature?

19. Why should the light dependent reaction occur before the light independent reaction?

20. How are arteries and veins structurally different from one another?

21. Differentiate between medullated and a non-medullated nerve fibre.

22. If a 5 N and 15 N forces are acting opposite to one another. Find the resultant force and the direction of action of the resultant force.

Part - III

III. Answer any 7 questions: (Q.No.32 is compulsory)

7 x 4 = 28

23. Why a spanner with a long handle is preferred to tighten screws in heavy vehicles?

24. Draw a ray diagram to show the image formed by a convex lens when the object is placed between f and 2f.

25. Write any three features of natural and artificial radioactivity.

26. Give an example each:

a) gas in liquid b) solid in liquid c) solid in solid d) gas in gas

27. a) The aquatic animals live more in cold region. Why?

b) Classify the following substances into deliquescent hygroscopic, conc. sulphuric acid, copper sulphate penta hydrate, silica gel, calcium chloride and gypsum salt.

28. How do detergents cause water pollution? Suggest remedial measures to prevent this pollution.

29. Draw and label the structure of oxysomes.

30. What are Okazaki fragments?

31. What is the importance of rain water harvesting?

32. The hydroxide ion concentration of a solution is 1×10^{-11} M. What is the pH of the solution?

Part - IV

IV. Answer all the questions:

3 x 7 = 21

33. a) Derive the ideal gas equation.

(OR)

b) What is nuclear reactor? Explain its essential parts and their functions.

34. a) Give the salient features of "Modern atomic theory"

(OR)

b) Explain the types of double displacement reaction with example.

35. a) With a neat labelled diagram, describe the parts of a typical angiospermic ovule.

(OR)

b) How is the structure of DNA organised? What is the biological significance of DNA?

COMMON FIRST REVISION TEST - 2023

Thiruvallur

Standard X

Reg.No.

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

SCIENCE

Part - I

Marks: 75

12 x 1 = 12

Time: 3.00 hours

I Choose the correct answer

- Impulse is equal to
 - rate of change of momentum
 - rate of force and time
 - change of momentum
 - rate of change of mass
- Kilowatt hour is a unit of
 - resistivity
 - conductivity
 - electrical energy
 - electrical power
- The frequency which is audible to the human ear is
 - 50 KHz
 - 20 KHz
 - 15000 KH
 - 10000 KHz
- Gamma radiations are dangerous because
 - it affects eyes and bones
 - It affect tissues
 - it produce genetic disorder
 - it produces enormous amount of heat
- Which of the following have inert gases 2 electrons in the outermost shell?
 - He
 - Ne
 - Ar
 - Kr
- The secondary suffix used in IUPAC nomenclature and aldehyde is _____.
 - ol
 - oic acid
 - al
 - one
- Which of the following is hygroscopic in nature?
 - ferric chloride
 - copper sulphate pentahydrate
 - silica gel
 - none of the above
- Which of the following are used as anaesthetics?
 - carboxylic acid
 - ethers
 - esters
 - aldehydes
- Which one of the following hormones is naturally not found in plants?
 - 2,4-D
 - GA₃
 - Gibberellin
 - IAA
- The 'Use and disuse Theory' was proposed by _____.
 - Charles Darwin
 - Ernst Haeckel
 - Jean Baptiste Lamarck
 - Gregor Mendel
- Polyphagia is a condition seen in _____.
 - obesity
 - diabetes mellitus
 - diabetes insipidus
 - AIDS
- Global warming will cause
 - raise in level of oceans
 - melting of glaciers
 - sinking of islands
 - all of these

Part - II

II. Answer any 7 questions: (Q.No.22 is compulsory)

7 x 2 = 14

- State Newton's second law.
- Define Dispersion of light.
- Distinguish between ideal gas and real gas.

16. Define Atomicity.
17. What is rust? Give the equations for formation of rust.
18. Why does the reaction rate of a reaction increases on raising the temperature?
19. Why should the light dependent reaction occur before the light independent reaction?
20. How are arteries and veins structurally different from one another?
21. Differentiate between medullated and a non-medullated nerve fibre.
22. If a 5 N and 15 N forces are acting opposite to one another. Find the resultant force and the direction of action of the resultant force.

Part - III**III. Answer any 7 questions: (Q.No.32 is compulsory)****7 x 4 = 28**

23. Why a spanner with a long handle is preferred to tighten screws in heavy vehicles?
24. Draw a ray diagram to show the image formed by a convex lens when the object is placed between f and $2f$.
25. Write any three features of natural and artificial radioactivity.
26. Give an example each :
a) gas in liquid b) solid in liquid c) solid in solid d) gas in gas
27. a) The aquatic animals live more in cold region. Why?
b) Classify the following substances into deliquescent hygroscopic, conc.sulphuric acid, copper sulphate penta hydrate, silica gel, calcium chloride and gypsum salt.
28. How do detergents cause water pollution? Suggest remedial measures to prevent this pollution.
29. Draw and label the structure of oxysomes.
30. What are Okazaki fragments?
31. What is the importance of rain water harvesting?
32. The hydroxide ion concentration of a solution is 1×10^{-11} M. What is the pH of the solution?

Part - IV**IV. Answer all the questions:****3 x 7 = 21**

33. a) Derive the ideal gas equation.

(OR)

- b) What is nuclear reactor? Explain its essential parts and their functions.

34. a) Give the salient features of "Modern atomic theory"

(OR)

- b) Explain the types of double displacement reaction with example.

35. a) With a neat labelled diagram, describe the parts of a typical angiospermic ovule.

(OR)

- b) How is the structure of DNA organised? What is the biological significance of DNA?

PART - I

12x1 = 12

Choose the best answer

1. If the Earth Shrinks to 50% of its real radius its mass remaining the same, the weight of a body on the Earth will.....
a) decrease by 50% b) increase by 50%
c) decrease by 25% d) increase by 300%
2. Magnification of a convex lens is.....
a) Positive b) negative c) either positive or negative d) zero
3. In a simple circuit, why does the bulb glow when you close the switch?
a) The switch produces electricity b) closing the switch completes the circuit
c) closing the switch breaks the circuit d) the bulb is getting charged
4. aprons are used to protect us from gamma radiations
a) Lead oxide b) Iron c) lead d) aluminium
5. Which of the following represent 1 amu?
a) mass of a ^{12}C atom b) mass of a hydrogen atom
c) $\frac{1}{12}$ th of the mass of a ^{12}C atom d) mass of ^{16}O atom
6. The basis of modern periodic law is.....
a) atomic number b) atomic mass c) isotopic mass d) number of neutrons
7. The number of components in a binary solution is.....
a) 2 b) 3 c) 4 d) 5
8. The secondary suffix used in IUPAC nomenclature of an aldehyde is.....
a) -ol b) -oic acid c) -al d) -one
9. Krebs's cycle takes place in.....
a) chloroplast b) mitochondrial matrix
c) stomata d) inner mitochondrial membrane
10. The segments of leech are known as.....
a) metameres b) somites c) proglottids d) all the above
11. To increase the sugar production in sugar canes they are sprayed with.....
a) auxin b) cytokinin c) gibberellins d) Ethylene
12. The..... units form the backbone of the DNA
a) 5 carbon sugar b) phosphate c) nitrogenous bases d) sugar phosphate

Part - II

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

7x2 = 14

13. State Newton's second law
14. True or false (If false give the correct statement)
i) The gram atomic mass of an element has no unit ii) Molar mass of CO_2 is 44g
15. Answer the following questions using the data given below
i) A and R are correct, R explains the A
ii) A is correct, R is wrong iii) A is wrong, R is correct iv) A and R are correct, explain A
Assertion: An uncleaned copper vessel is covered with a greenish layer
Reason: Copper is not attacked by alkali

WAY TO SUCCESS

16. Differentiate reversible and irreversible reactions
17. Draw and label the structure of oxysomes
18. What is the shape of RBC in human blood?
19. How can you determine the age of the fossils?
20. Mention the diseases caused by tobacco smoke
21. What is stage?
22. If you keep ice at 0°C and water at 0°C in either of your hands in which hand you will feel more chilliness? why?

PART - III

III. Answer any 7 question (question no 32 is compulsory)

23. List any four properties of light
24. Distinguish between the resistivity and conductivity of a conduction
25. a) Name three animals which can hear ultrasonic vibration b) Explain why, ceilings of concert halls are curved
26. Given an example each
i) gas in liquid ii) solid in liquid iii) solid in solid iv) gas in gas
27. How is ethanoic acid prepared from ethanol? given the chemical equation
28. Match columns, I, II and III correctly

| I | II | III |
|--------|---------------------|-----------------------------|
| Organs | Membranous covering | location |
| Brain | Pleura | abdominal cavity |
| Kidney | Capsula | mediastinum |
| Heart | Meninges | enclosed in thoracic cavity |
| Lungs | Pericardium | Cranial cavity |

29. medullated and non-medullated nerve fibre - Differentiate
30. Write the characteristic of insect Pollinated flowers
31. state the applications of DNA fingerprinting technique
32. What is the pH of 1.0×10^{-5} Molar solution of KOH?

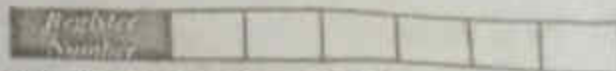
PART - IV

IV Answer all the question

33. Describe rocket propulsion (or)
what is a nuclear reactor? Explain its essential parts with their function
34. Given the salient features of " modern atomic theory" (or)
a) state the reason for additions of caustic alkali to bauxite are during purification of bauxite
b) Along with cryolite and alumina, another substance is added to the electrolyte mixture. name the substance and given one reason for the addition
35. Describe and name three stages of cellular respiration that aerobic organisms use to obtain energy from glucose (or)
a) Tidal energy is type of energy
b) What will happen if trees are cut down?
c) What are the advantages of using biogas?

10th - Science -FR-NKL- பக்கம்-2

Class : 10



REVISION EXAMINATION, JANUARY - 2023

SCIENCE

PART - 1

[Max. Marks : 75]

Time Allowed : 3.00 Hours

Choose the correct answer.

Answer all the questions.

12x1=12

1. Impulse is equal to
 - a) Rate of change of momentum
 - b) Rate of force and time
 - c) Change of momentum
 - d) Rate of change of mass
2. The eye defect 'presbyopia' can be corrected by
 - a) Convex lens
 - b) Concave lens
 - c) Convex mirror
 - d) Bifocal lenses
3. SI unit of resistance is
 - a) mho
 - b) Joule
 - c) Ohm
 - d) ohm meter
4. _____ isotope is used for the treatment of cancer.
 - a) Radio Iodine
 - b) Radio cobalt
 - c) Radio carbon
 - d) Radio Nickel
5. Which of the following is a triatomic molecule?
 - a) Glucose
 - b) Helium
 - c) Carbon dioxide
 - d) Hydrogen
6. Which of the following is the universal solvent?
 - a) Acetone
 - b) Benzene
 - c) Water
 - d) Alcohol
7. TFM in soaps represents _____ content in soap.
 - a) mineral
 - b) vitamin
 - c) fatty acid
 - d) carbohydrate
8. The endarch condition is the characteristic feature of
 - a) Root
 - b) Stem
 - c) leaves
 - d) flower
9. 'Heart of Heart' is called
 - a) SA node
 - b) Av node
 - c) Purkinje fibres
 - d) Bundle of his
10. Vomiting centre is located in
 - a) Medulla oblongata
 - b) Stomach
 - c) Cerebrum
 - d) Hypothalamus
11. The _____ units form the backbone of DNA
 - a) 5 carbon sugar
 - b) Phosphate
 - c) Nitrogenous bases
 - d) Sugar phosphate
12. World 'No Tobacco Day' is observed on _____
 - a) May 31
 - b) June 8
 - c) April 22
 - d) October 2

Part - II

Answer any seven questions. Q.No. 22 is compulsory.

7x2 = 14

13. Classify the types of force based on their application.
14. Why does the Sky appear in blue colour?
15. State Boyle's law.
16. Name three animals, which can hear ultrasonic vibrations.
17. Define: Atomicity.
18. True or false. [If false given the correct statement]
 - i) At the equilibrium of a reversible reaction, the concentration of the reactants and the products will be equal.
 - ii) On dipping a pH paper in a solution, it turns yellow. Then the solution is basic.
19. What is respiratory quotient?

CP / 10 / Sci / 1

20. Fill in the blanks.

- (i) Normal blood pressure is _____
 (ii) The normal human heartbeat is about _____ time per minute.

21. Identify the parts A, B, C and D.



22. How many electrons are passing per second in an circuit in which there is a current of 5A?

PART - III

Answer any seven questions .Q.No: 32 is compulsory.

7x4 = 28

23. Define inertia. Give its classification.
 24. Differentiate convex lens and concave lens.
 25. Differentiate soaps and detergents.
 26. Why is the sinoatrial node called the pacemaker of heart?
 27. (i) What is bolting? How can it be induced artificially?
 (ii) Why are thyroid hormones referred as personality hormone?
 28. (i) What are allosomes?
 (ii) What are Okazaki fragments?
 29. How can you determine the age of the fossils?
 30. How is a cancer cell different from normal cell?
 31. Enumerate the importance of forest.
 32. What is the PH of 1.0×10^{-5} molar solution of KOH?



PART-IV

Answer all the questions in detail.

3x7=21

33. a) (i) Derive the ideal gas equation.
 (ii) Distinguish between ideal gas and real gas.
 (OR)
 b) What is meant by reflection of sound? Explain:
 i) Reflection at the boundary of a rarer medium.
 ii) Reflection at the boundary of a denser medium.
 iii) Reflection at curved surfaces.
 34. a) In what way hygroscopic substances differ from deliquescent substances.
 b) Classify the following substances into deliquescent, hydroscopic.
 (i) Conc. sulphuric acid (ii) Silica gel
 (iii) Copper sulphate penta hydrate (iv) Calcium chloride
 (v) Gypsum salt α, β (OR)
 a) What is a chemical equilibrium? What are its characteristics?
 b) Differentiate reversible and Irreversible reactions.

35. a) i) How does the light dependent reaction differ from the light independent reaction? What are the end products and reactants in each? Where does each reaction occur within the chloroplast?

(OR)

- a) With a neat labelled diagram describe the parts of a typical angiospermic ovule
 b) Define triple fusion.



COMMON FIRST REVISION TEST – 2023

Standard X

Reg.No. :

| | | | | | |
|---|---|---|---|---|---|
| - | 1 | 0 | 3 | 2 | 6 |
|---|---|---|---|---|---|

SCIENCE

Part - I

Time: 3.00 hrs.

Marks: 75

12 x 1 = 12

I. Choose the correct answer:

1. Impulse is equals to _____.
a) rate of change of momentum b) rate of force and time
c) change of momentum d) rate of change of mass
2. Power of a lens is $-4D$, then it's focal length is _____.
a) 4 m b) -40 m c) -0.25 m d) -2.5 m
3. The value of universal gas constant _____.
a) $3.81 \text{ J mol}^{-1} \text{ K}^{-1}$ b) $8.03 \text{ J mol}^{-1} \text{ K}^{-1}$ c) $1.38 \text{ J mol}^{-1} \text{ K}^{-1}$ d) $8.31 \text{ J mol}^{-1} \text{ K}^{-1}$
4. _____ aprons are used to protect us from gamma radiation.
a) lead oxide b) iron c) lead d) aluminium
5. The number of periods and groups in the periodic table are _____.
a) 6,16 b) 7,17 c) 8,18 d) 7,18
6. Powdered CaCO_3 reacts more rapidly than flaky CaCO_3 because of _____.
a) large surface area b) high pressure
c) high concentration d) high temperature
7. TFM in soaps represents _____ content in soap.
a) mineral b) vitamin c) fatty acid d) carbohydrate
8. Which is formed during anaerobic respiration?
a) carbohydrate b) ethyl alcohol c) acid CoA d) pyruvate
9. Which one is referred as 'Master Gland'?
a) pineal gland b) pituitary gland c) thyroid gland d) adrenal gland
10. The essential parts of a flower are _____.
a) calyx and corolla b) calyx and androecium
c) corolla and gynoecium d) androecium and gynoecium
11. We can cut the DNA with the help of _____.
a) scissors b) restriction endonucleases
c) knife d) RNAase
12. 'World No Tobacco Day' is observed on
a) May 31 b) June 6 c) April 22 d) October 2

Part - II

II. Answer any 7 questions: (Q.No.22 is compulsory)

7 x 2 = 14

13. Define inertia - Give it's classification.
14. Why is tungsten metal used in bulbs but not in fuse wires?
15. When and where was the first nuclear reactor built?
16. Give any two examples for heterodiatomic molecules.
17. What is rust? Give the equation for the formation of rust.
18. Name the simplest ketone and give its structural formula.
19. Why is the teeth of rabbit is called heterodont?

20. Define genetic engineering.
21. How are e-wastes generated?
22. Calculate the pH of 0.0001 M HNO_3 ?

Part - III**III. Answer any 7 questions: (Q.No.32 is compulsory)****7 x 4 = 28**

23. Distinguish between ideal and real gas.
24. a) What is meant by electric current?
b) Name and define its unit.
25. a) Define one roentgen.
b) Give the function of control rods in a nuclear reactor.
26. a) What is molar volume of a gas?
b) Write the different types of isotopes of oxygen and its percentage abundance.
27. Define combination reaction. Give one example for an exothermic reaction.
28. a) Draw and label the structure of oxisomes.
b) What is respiratory quotient?
29. Enumerate the functions of blood.
30. Which hormone requires iodine for its formation? What will happen if intake of iodine in our diet is low?
31. What are the advantages of using biogas?
32. A sound wave has a frequency of 200 Hz and a speed of 400 ms^{-1} in a medium. Find the wavelength of the sound wave.

Part - IV**IV. Answer all the questions:****3 x 7 = 21**

33. a) i) Differentiate the eye defects myopia and hypermetropia.
ii) Write any two applications of concave lens.
(OR)
b) i) What do you understand by the term 'Ultrasonic Vibration'?
ii) State three uses of ultrasonic vibrations.
iii) Name three animals which can hear ultrasonic vibrations.
34. a) i) Calculate the number of water molecule present in one drop of water which weighs 0.18 g.
ii) Derive the relationship between relative molecular mass and vapour density.

(OR)

- b) How is ethanol manufactured from sugarcane? Explain.
35. a) With a neat labelled diagram explain the structure of neuron.
(OR)
b) Suggest measures to overcome the problems of an alcoholic.

FTJ
10 - Std
FIRST REVISION TEST - 2023
SCIENCE

Time : 3.00 Hrs

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| - | + | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|

Marks : 75

PART - I

Note : i) Answer all the questions. ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.

12 X 1 = 12

- The unit of electrical energy is
a) Watt b) Kilowatt hour c) Ampere d) Ohm
- If a sound wave travels with a frequency of $1.25 \times 10^3 \text{ Hz}$ at 344 m s^{-1} , the wave length will be
a) 27.52m b) 275.2m c) 0.02752m d) 0.2752m
- Proton - proton chain reaction is an example of
a) Nuclear fission b) α - decay c) nuclear fusion d) β - decay
- 25% alcohol solution means
a) 25 alcohol in 100 ml of water b) 25 ml alcohol in 25ml of water
c) 25ml alcohol in 75ml water d) 75ml alcohol in 25ml of water
- Photolysis is a decomposition reaction caused by
a) heat b) electricity c) light d) mechanical energy
- The body of leach has
a) 23 segments b) 33 segments c) 38 segments d) 30 segments
- Vomitting centre is located in
a) Medulla oblongata
b) stomach c) Cerebrum d) Hypothalamus
- Hormone which is called as 'Time messages'
a) prolactin b) melatonin c) Oxytocin d) Thyroxin
- Estrogen is secreted by
a) Anterior pituitary b) Primary follicle c) Graffian follicle d) corpus luteum
- The 'use and disuse theory' was proposed by a) Charles Darwin
b) Ernst Haeckel c) Jean Baptise Lamarck d) Gregor Mendel
- Polyphagia is a condition seen in
a) Obesity b) diabetes mellitus c) Diabetes insipidus d) AIDS
- Which software is used to create animation?
a) paint b) PDF c) Ms- word d) scratch

PART - II

Note : Answer any seven questions. Question No. 22 is Compulsory.

- Mark the correct choice. $7 \times 2 = 14$
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) If both assertion and reason 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.
- Explain why, the ceilings of concert halls are curved?
- True or false. If false give the correct statement.**
a) Moseley's periodic table is based on atomic mass.
b) All ores are minerals ; but all minerals cannot be called as ores.

16. **Fill in the blanks.**

- The equilibrium attained during the melting of ice is known as
 - Chemical-Volcano is an example for type of reaction.
17. Why is the colour of blood red?
18. Name the gaseous plant hormone. Discuss its two different actions in plants.

19. **Match the following.**

- | | | |
|----------------------|---|-------------------------------------|
| a) autosomes | - | 9 : 3 : 1 : 3 : 1 |
| b) Diploid condition | - | 22 pair of chromosomes |
| c) Allosome | - | 2n |
| d) Dihybrid ratio | - | 23 rd pair of chromosome |
20. State the applications of DNA finger printing technique.
21. Expand the following abbreviation.
- | | | | |
|--------|---------|--------|--------|
| a) BMI | b) AIDS | c) HIV | d) CHD |
|--------|---------|--------|--------|
22. A charge of 12 coulomb flows through a bulb in 6 second. What is the current through the bulb?

PART - III

Note : Answer any seven questions. Questions No. 32 is compulsory.

- Give the applications of universal law of gravitation. $7 \times 4 = 28$
- Give any four uses of radio isotopes in the field of medicine.
- Write short note on
 - Saturated solution
 - Unsaturated solution
- Arrive at, systematically, the IUPAC name of the compound $\text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{OH}$.
- Explain the male reproductive system of rabbit with a labelled diagram.
- Classify neurons based on its structure.
- Explain Gynocium of flowering plants.
- Explain chromosome types based on the position of centromere.
- Define Ethnobotany and write its importance.
- How many grams are there in the following?
 - 2 moles of hydrogen molecule.
 - 5 mole of sulphur molecule.

PART - IV

Note : Answer all the questions. Draw diagrams wherever necessary.

- Derive the ideal gas equation.
 - Define one kilo calorie. $3 \times 7 = 21$

What is an echo?

 - State two conditions necessary for hearing an echo.
 - What are the medical applications of echo?
 - How can you calculate the speed of sound using echo?
- Explain the method of preventing metal corrosion.
 - Name the acid that renders aluminium passive. Why?
 - Identify the bond between H and F in HF molecule. **(OR)**
 - Explain the factors influencing the rate of a reaction.
 - If the p^{H} of solution is 4.5, What is its p^{OH} ?
- Differentiate : Aerobic and Anaerobic respiration.
 - Why are the factors affecting photosynthesis. **(OR)**

Enumerate the importance of forest.

Part - I

Answer all the questions.

12 X 1 = 12

- One kilogram force equals to
a) 9.8 dyne b) 9.8×10^4 N c) 980 dyne d) 9.8×10^4 dyne
- SI unit of resistance is
a) mho b) joule c) ohm d) ohmmeter
- In the nuclear reaction ${}_6^{A12} \xrightarrow{\alpha\text{-decay}} {}_Z^{Y4}$ the value of A & Z
a) 8, 6 b) 8, 4 c) 4, 8 d) 12, 6
- Atoms of different elements having same number of are called isotones.
a) neutrons b) atomic number c) atomic mass d) protons
- Among the given species A^- , A^+ and A, the smallest one in size is
a) A^- b) A^+ c) A d) 0
- When pressure is increased at constant temperature, the solubility of gases in liquid
a) no change b) increases c) decreases d) no reaction
- The endarch condition is the characteristic feature of
a) root b) stem c) leaves d) flower
- Nerve cells do not posses
a) neurilemma b) sarcolemma c) axon d) dendrites
- LH is secreted by
a) Adrenal gland b) Thyroid gland c) Anterior pituitary d) Hypothalamus
- A sexual reproduction takes place through budding in
a) amoeba b) yeast c) plasmodium d) bacteria
- The units form the backbone of the DNA.
a) 5 carbon sugar b) phosphate c) Nitrogenous bases d) sugar phosphate
- All files are stored in the
a) folder b) box c) paint d) scanner

Part - II

Answer any seven questions. (Q.No. 22 is compulsory)

7 X 2 = 14

- Why does the sky appear in blue colour?
- Define critical mass.
- What is aqueous and non-aqueous solution? Give an example.
- If the pH value of solution is zero then what will be the nature of the solution? Give reason.
- Draw the label the structure of oxysomes.
- How does leech suck blood from the host?

WAY TO SUCCESS

19. Who discovered Rh factor? Why was it named so?
20. What is pollination?
21. What do you understand by the term phenotype and genotype?
22. A torch bulb is rated at 3v and 600mA. Calculate its resistance.

Part - III

Answer any seven questions. (Q.No. 32 is compulsory)

7 X 4 = 28

23. i) **Fill up :** a) Opening a door : Moment of force, opening a water tap :
b) Pushing a bus by a group of people : Like parallel forces,
Tug of war :
ii) The power of a lens is -2D. Find the focal length of a lens.
24. **Match it :**
a) Electric current - Volt
b) Potential difference - Ohm meter
c) Resistivity - Watt
d) Electric power - Ampere
25. Difference between the sound and light waves.
26. a) Define - Relative Atomic Mass. b) Give any two examples for hetero diatomic molecules.
27. How do detergents cause water pollution? Suggest remedial measures to prevent this pollution.
28. i) Why are the rings of cartilages found in trachea of rabbit?
ii) Define reflex arc.
29. Draw the external structure of human heart and label the parts.
30. Define Ethnobotany and write its importance.
31. Explain about Gene therapy.
32. a) Give the function of control rods in a nuclear reactor.
b) Calculate the pH of 1.0×10^{-4} molar solution of HNO_3 .

Part - IV

Answer all the questions. Draw diagrams wherever necessary.

3 X 7 = 21

33. a) i) State Newton's law of motion. (5)
ii) Write the uses of Telescope. (2) **(OR)**
b) Compare the properties of Alpha, beta, and gamma radiations.
34. a) i) Give the salient features of 'modern atomic theory'. (5)
ii) Write any two applications of 'Avogadro's law'. (2) **(OR)**
b) What is called homologous series? Give its characteristics.
35. a) i) What is respiratory quotient? (2)
ii) What is eothesion? (2)
iii) What are the effects of hybrid rigour in animals? (3) **(OR)**
b) i) What are the various routes by which transmission of human immuno deficiency virus takes place? (3) ii) Enumerate the importance of forest. (4)

RMI 10 - அறிவியல் (EM) பக்கம் -2

Part - I

Answer all the questions.

12 X 1 = 12

- One kilogram force equals to
a) 9.8 dyne b) 9.8×10^4 N c) 980 dyne d) 9.8×10^4 dyne
Ans: 9.8×10^4 dyne
- SI unit of resistance is
a) mho b) joule c) ohm d) ohmmeter
- In the nuclear reaction ${}^6_{12}\text{X} \xrightarrow{\alpha\text{-decay}} {}^Z_Y\text{Y}$ the value of A & Z
a) 8, 6 b) 8, 4 c) 4, 8 d) 12, 6
- Atoms of different elements having same number of are called isotones.
a) neutrons b) atomic number c) atomic mass d) protons
- Among the given species A^- , A^+ and A , the smallest one in size is
a) A^- b) A^+ c) A d) 0
- When pressure is increased at constant temperature, the solubility of gases in liquid
a) no change b) increases c) decreases d) no reaction
- The endarch condition is the characteristic feature of
a) root b) stem c) leaves d) flower
- Nerve cells do not possess
a) neurilemma b) sarcolemma c) axon d) dendrites
- LH is secreted by
a) Adrenal gland b) Thyroid gland c) Anterior pituitary d) Hypothalamus
- A sexual reproduction takes place through budding in
a) amoeba b) yeast c) plasmodium d) bacteria
- The units form the backbone of the DNA.
a) 5 carbon sugar b) phosphate c) Nitrogenous bases d) sugar phosphate
- All files are stored in the
a) folder b) box c) paint d) scanner

Part - II

Answer any seven questions. (Q.No. 22 is compulsory)

7 X 2 = 14

- Why does the sky appear in blue colour? *scattering, shorter wave length*
- Define critical mass. *minimum mass of a fisible to sustain the chain reaction*
- What is aqueous and non-aqueous solution? Give an example. *solvent - water*
- If the pH value of solution is zero then what will be the nature of the solution? Give reason. *Acid 0-1*
- Draw the label the structure of oxsomes. *Fi stalk Fo*
- How does leech suck blood from the host? *hrt radicle incision, hirudin*

WAY TO SUCCESS

19. Who discovered Rh factor? Why was it named so? *Rhesus monkey Land steinher & wienon 1940*
20. What is pollination? *transfer of pollen grains from anther to stigma*
21. What do you understand by the term phenotype and genotype? *External expression of a particular trait genetic expression*
22. A torch bulb is rated at 3v and 600mA. Calculate its resistance. *$P = \frac{V^2}{I} = \frac{3^2}{600 \times 10^{-3}} = 5 \Omega$*

Part - III

Answer any seven questions. (Q.No. 32 is compulsory)

7 X 4 = 28

23. i) Fill up : a) Opening a door : Moment of force, opening a water tap : *moment of a couple*
b) Pushing a bus by a group of people : Like parallel forces,
Tug of war : *unlike parallel forces*
- ii) The power of a lens is -2D. Find the focal length of a lens. *$P = \frac{1}{f} = -2$
 $f = -\frac{1}{2} = -0.5m$*
24. Match it :
- | | | | |
|-------------------------|---|-----------|----------|
| a) Electric current | - | Volt | <i>2</i> |
| b) Potential difference | - | Ohm meter | <i>3</i> |
| c) Resistivity | - | Watt | <i>4</i> |
| d) Electric power | - | Ampere | <i>1</i> |
25. Difference between the sound and light waves.
26. a) Define - Relative Atomic Mass. b) Give any two examples for hetero diatomic molecules.
27. How do detergents cause water pollution? Suggest remedial measures to prevent this pollution.
28. i) Why are the rings of cartilages found in trachea of rabbit?
ii) Define reflex arc.
29. Draw the external structure of human heart and label the parts.
30. Define Ethnobotany and write its importance.
31. Explain about Gene therapy.
32. a) Give the function of control rods in a nuclear reactor.
b) Calculate the pH of 1.0×10^{-4} molar solution of HNO_3 . *$pH = 4$*

Part - IV

Answer all the questions. Draw diagrams wherever necessary.

3 X 7 = 21

33. a) i) State Newton's law of motion. (5)
ii) Write the uses of Telescope. (2) (OR)
b) Compare the properties of Alpha, beta, and gamma radiations.
34. a) i) Give the salient features of 'modern atomic theory'. (5)
ii) Write any two applications of 'Avogadro's law'. (2) (OR)
b) What is called homologous series? Give its characteristics.
35. a) i) What is respiratory quotient? (2)
ii) What is cohesion? (2)
iii) What are the effects of hybrid vigor in animals? (3) (OR)
b) i) What are the various routes by which transmission of human immunodeficiency virus takes place? (3)
ii) Enumerate the importance of forest. (4)

RMI 10 - *சுதேயம்* (EM) பக்கம் -2

SECTION - A

I. Choose the correct answer :

12 x 1 = 12

- Unit of radioactivity is
a) Roentgen b) curie c) Becquerel ☒ d) All the above
- Which of the following denotes the high temperature?
a) 1 celsius b) 1 kelvin c) 1 Fahrenheit d) All are equal
- Inertia of a body depends on
a) weight of the object b) acceleration due to gravity of the planet
☒ c) mass of the object d) Both a & b
- Which of the following is a triatomic molecule?
a) Glucose b) Helium ☒ c) Carbon dioxide d) Hydrogen
- Molecular formula of Blue nitriol is
a) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ b) Gypsum c) CaO ☒ d) $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
- TFM in soaps represents content in soap.
a) mineral b) vitamin ☒ c) fatty acid d) carbohydrate
- Which is formed during anaerobic respiration
a) Carbohydrate b) Ethyl alcohol ☒ c) Acetyl CoA d) Pyruvate
- Which of the following shows correct composition of blood?
a) plasma - blood + lymphocyte b) serum - blood + Fibrinogen
c) Lymph - plasma + RBC + WBC ☒ d) Blood - plasma + RBC + WBC + platelets
- To increase the sugar production in sugarcane, they are sprayed with
a) Auxin b) cytokinin ☒ c) Gibberellins d) Ethylene
- The units form the backbone of the DNA
a) 5 carbon sugar b) phosphate c) Nitrogenous base ☒ d) sugar phosphate
- Pusa Komal* Pusahomal is a disease resistant variety of
a) Sugarcane b) Rice ☒ c) Cowpea d) Maize
- A cheap, conventional, commercial and inexhaustible source of energy is
☒ a) Hydropower b) Solar energy c) Wind energy d) Thermal energy

SECTION - B

II. Answer any seven Questions. Q.No. 22 is compulsory

7 x 2 = 14

- State whether the following statements are true or false, if false explain why?
a) According to charle's law, at constant pressure, the temperature is inversely proportional to volume.
b) S.I. unit of temperature is kelvin.
- State soddy and Fajan's displacement law.
- Match the following :
a) Galvanisation - Noble gas elements *d*
b) Redox reaction - coating with Zn *c*
c) Dental filling - Silver-tin amalgam *a*
d) Group 18 elements - Alumino thermic process *b*

16. Differentiate reversible and irreversible reactions.

17. How is diastema formed in Rabbit?

18. Draw and label the structure of oxysome.

19. The complete events of cardiac cycle last for 0.8 sec. What is the timing for each event?

20. How can you determine the age of the fossils?

21. What is stage?

22. Calculate the current through a 100w, 200v electric bulb in an electric circuit of your house.

SECTION - C

Answer any seven Questions. Q.No. 32 is compulsory

7 x 4 = 28

23. Describe rocket propulsion.

24. a) State Joule's law of heating. b) How does a fuse wire protect electrical appliances?

25. a) A is a silvery white metal. A combines with O_2 to form B at $800^\circ C$, the alloy of A is used in making the aircraft. Find A and B.

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

26. What is a chemical equilibrium? What are its characteristics?

27. Write the importance of transpiration.

28. a) What is respiratory quotient? b) Write the overall equation of photosynthesis.

29. How nerve impulses are transferred from one neuron to next neuron?

30. Why is euploidy considered to be advantages to both plants and animals?

31. With a neat labelled diagram, explain the techniques involved in gene cloning.

32. A solution is prepared by dissolving 45g of sugar in 180g of water. Calculate the mass percentage of solute.

SECTION - D

Answer all the Questions in detail.

3 x 7 = 21

33. a) (i) What is an echo? (1)

(ii) State two conditions necessary for hearing an echo. (2)

(iii) What are the medical applications of echo? (2)

(iv) How can you calculate the speed of sound using echo? (2) (OR)

b) (i) What is power of accommodation of eye? (2)

(ii) Differentiate the eye defects : Myopia and Hypermetropia. (3)

(iii) What is the value of the near point and far point of the human eye? (2)

34. a) (i) Define Atomicity (2)

(ii) Give the salient features of "Modern atomic theory". (5) (OR)

b) (i) Differentiate soaps and detergents. (3)

(ii) Explain the mechanism of cleaning action of soap. (4)

35. a) (i) What are the phases of menstrual cycle?. Indicate the changes in the ovary and uterus. (5)

(ii) What is the role of parathormone? (2) (OR)

b) (i) Changes in lifestyle is a risk factor for occurrence of cardiovascular diseases. Can it be modified? If yes suggest measures for prevention. (5) (OR)

(ii) Solar energy is a renewable energy. How? (2)



Standard 10

SCIENCE

Maximum Marks: 75

Time: 3.00 Hrs.

PART - I

Note: i) Answer all questions.

12×1=12

ii) Choose the most suitable answer.

- 1) The eye defect 'presbyopia' can be corrected by
a) Convex lens b) Concave lens c) Convex mirror d) Bi focal lenses
- 2) The value of universal gas constant
a) $3.81 \text{ J mol}^{-1} \text{ K}^{-1}$ b) $8.03 \text{ J mol}^{-1} \text{ K}^{-1}$
c) $1.38 \text{ J mol}^{-1} \text{ K}^{-1}$ d) $8.31 \text{ J mol}^{-1} \text{ K}^{-1}$
- 3) The frequency which is audible to the human ear is
a) 50 KHz b) 20 KHz c) 15000 KHz d) 10000 KHz
- 4) The gram molecular mass of oxygen molecule is
a) 16g b) 18g c) 32g d) 17g
- 5) White enamel coating of our teeth is _____, the hardest substance in our body.
a) Sodium phosphate b) Calcium phosphate
c) Potassium phosphate d) Ammonium phosphate
- 6) Which of the following are used as anaesthetics?
a) Carboxylic acids b) Ethers
c) Esters d) Aldehydes
- 7) Which is formed during anaerobic respiration?
a) Carbohydrate b) Ethyl alcohol c) Acetyl CoA d) Pyruvate
- 8) Which one of the following is an IUCD?
a) Copper - T b) Oral pills c) Diaphragm d) Tubectomy
- 9) The term 'chromosomes' was first coined by
a) T.H. Morgan b) R.C. Punnett
c) Waldeyer d) Watson and Crick
- 10) Pusa Komal is a disease resistant variety of _____.
a) Sugarcane b) Rice c) Cow pea d) Maize
- 11) Pocso Act is introduced in the year
a) 2012 b) 2010 c) 2008 d) 2015
- 12) A renewable source of energy is
a) Petroleum b) Coal c) Nuclear fuel d) Trees

PART - II

Answer any 7 questions: [Q.No. 22 is compulsory]

7×2=14

- 13) State Newton's second law.
- 14) Why does the sky appear in blue colour?
- 15) Define one calorie.
- 16) Give any two uses of ethanol.
- 17) Draw the structure of sperm and label the parts.
- 18) What is photosynthesis and where in a cell does it occur?
- 19) What are synthetic auxins? Give examples.

20) Define triple fusion.

21) How is a cancer cell different from a normal cell?

22) Calculate the amount of energy released when a radioactive substance undergoes fusion and results in a mass defect of 2 kg.

PART - III

Answer any 7 questions: [Q.No. 32 is compulsory]

7×4=28

- 23) What are the types of inertia? Give an example for each type.
- 24) List the merits of LED bulb.
- 25) Write any four features of natural and artificial radioactivity.
- 26) Derive the relationship between Relative molecular mass and vapour density.
- 27) Classify the following compounds based on the pattern of carbon chain and give their structural formula (i) Propane (ii) Benzene (iii) Cyclobutane (iv) Furan.
- 28) a) List out the parasitic adaptations in leech.
b) Who discovered Rh factor? Why was it named so?
- 29) With a neat labelled diagram explain the structure of a neuron.
- 30) Write the physiological effects of gibberellins.
- 31) a) What is evolution?
b) Discuss the importance of biotechnology in the field of medicine.
- 32) Calculate the current and the resistance of a 100W, 200V electric bulb in an electric circuit.

PART - IV

Answer ALL questions. Each question carries seven marks:

3×7=21

[Draw diagram wherever necessary]

- 33) a) List any five properties of light.
b) State Snell's law. **(OR)**
a) What do you understand by the term 'ultrasonic vibration'?
b) State three uses of ultrasonic vibrations.
c) Name four animals which can hear ultrasonic vibrations.
- 34) a) In what way hygroscopic substances differ from deliquescent substances.
b) What is meant by binary solution?
c) Define solubility. **(OR)**
a) Explain the types of double displacement reactions with examples.
b) If the pH of a solution is 4.5, what is its pOH?
- 35) a) How is the structure of DNA organised? What is the biological significance of DNA?
b) What are Okazaki fragments?
(OR)
a) What are the various routes by which transmission of human immuno deficiency virus takes place?
b) What are the contributing factors of obesity?
c) How do you differentiate homologous organs from analogous organs?



Standard X
SCIENCE

Reg.No.

Time : 3.00 hrs

Part - I

Marks : 75
12 x 1 = 12

- I. Choose the correct answer:
- The value of Avogadro number
a) $6.023 \times 10^{23}/\text{mol}$ b) $6.023 \times 10/\text{mol}$
c) $6.023 \times 10^{22}/\text{mol}$ d) $6.032 \times 10^{23}/\text{mol}$
 - Proton - Proton chain reaction is an example of
a) nuclear fusion b) Nuclear Fission c) Alpha decay d) β decay
 - Kilowatt hour is the unit of
a) resistivity b) conductivity c) electrical energy d) electrical power
 - _____ group contain the member of Chalcogen family.
a) 17 b) 18 c) 16 d) 15
 - The normal pH of human blood is
a) 9.1 b) 7.4 c) 5.4 d) 4.5
 - It is the common step of both aerobic and anaerobic respiration.
a) Krebs cycle b) glycolysis c) electron transport chain d) none of these
 - During transpiration there is loss of
a) CO_2 b) H_2O c) O_2 d) N_2
 - Which nervous band connects the two cerebral hemispheres of brain?
a) thalamus b) hypothalamus c) pons d) corpus callosum
 - Estrogen is secreted by
a) anterior pituitary b) primary follicle c) Graffian follicle d) Corpus luteum
 - Okasaki fragments are joined together
a) DNA ligase b) DNA polymerase c) RNA d) RNA polymerase
 - Cancer of the epithelial cells is called
a) Leukemia b) Sarcoma c) Carcinoma d) Lipoma
 - Which organism is considered to be the fossil bird?
a) Archaeopteryx b) Eagle c) Bat d) None of these

Part - II

7 x 2 = 14

II. Answer any 7 questions. (Q.No.22 is compulsory)

13. Define One calorie.

14. Match the following :

- | | |
|------------|----------------------------|
| a) CO - 60 | - Age of fossil 4 |
| b) I - 131 | - Function of heart 3 |
| c) Na - 24 | - Leukemia 1 - Skin Cancer |
| d) C - 14 | - Thyroid 2 |

15. State two conditions necessary for rusting of iron.

16. If the pH of the solution is 4.5, what is its pOH?

17. Differentiate between vein and artery.

Q.no: $\text{pH} + \text{pOH} = 14$
 $\text{pOH} = 14 - \text{pH}$
 $\text{pOH} = 14 - 4.5$
 $\text{pOH} = 9.5$

18. Draw the given diagram and mark any two parts.

Thyroid gland



19. Name the types of stem cells.
 20. Write two diagnosis methods of HIV. *1. ELISA test, 2. western blot*
 21. What is SPRITE?
 22. A charge of 12 coulomb flows through a bulb in 5 second. What is the current through the bulb? *$I = Q/t$*

Part - III *$12/5 = 2.4 A //$*

III. Answer any 7 questions. (Q.No.32 is compulsory)

7 x 4 = 28

23. State Newton's Law of Motion.
 24. a) Define power of a lens.
 b) What are the causes of Hypermetropia?
 25. a) Write any two applications of Doppler Effect.
 b) State two conditions necessary for hearing an echo.
 26. How is ethanol manufactured from sugarcane?
 27. a) How does leech suck blood from the host?
 b) Why are the rings of cartilages found in Arachnida of rabbit?
 28. Write the functions of chloroplast and mitochondria.
 29. Classify neurones based on its structure.
 30. a) What does DNA stand for? *Deoxy Nucleic Acid*
 b) What is the biological significance of DNA?
 31. Define Ethnobotany and write its importance.
 32. 1.5 g solute is dissolved in 15 g of water to form a saturated solution at 298 K. Find out the solubility of the solute at the temperature.

Part - IV

IV. Answer all the questions.

33. a) Differentiate Mass and Weight.
 b) List any three properties of light.
 c) Write any two units of temperature. (OR)
 a) List any merits of LED bulb.
 b) Why does the sky appear in blue colour?
 c) Define any two units of Radioactivity.
 34. a) Give any two examples for triatomic molecule. *$\rightarrow H_2O/CO_2/NO_2/SO_2$*
 b) List the applications of Avogadro's law.
 c) What is Hydrocarbon? (OR)
 a) What is meant by Binary solution?
 b) Complete the following :
 i) $CaCO_3 \xrightarrow{\text{Heat}} ?$ *$CaO + CO_2 \uparrow$*
 ii) $2NaF + Cl_2 \rightarrow ?$ *$2NaCl + F_2$*
 iii) $\text{Acid} + \text{Base} \rightarrow ?$ *$\text{Salt} + H_2O$*
 c) How is ethanoic acid prepared from Alcohol?
 35. a) Give the importance of transpiration.
 b) Name the types of plant hormones.
 c) What is pollination? Classify the types of pollination. (OR)
 a) Discuss the importance of biotechnology in field of medicine.
 b) What is metastasis?
 c) What are the consequences of deforestation?
