

Sun Tuition Center - 9629216361

Only maths Tuition standard IX - XII

SUN TUITION CENTER

MODEL QUESTION PAPER

WITH ANSWER

SCIENCE

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PTA MODEL QUESTION PAPER - 5

PUBLIC MODEL QUESTION PAPER - 9

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Life is a good circle, you choose the best radius...

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GOVT. MODEL QUESTION PAPER - 2019**CLASS: X****SCIENCE****Question
Paper****1**

Time allowed: 15 mins + 3 hrs

Marks: 75

Instructions : 1. Check the question paper for fairness of printing. If there is any lack of fairness, inform the Hall Supervisor immediately.
2. Use Blue (or) Black ink to write and underline and pencil to draw diagrams.

Note: This question paper contains four parts.

PART - I

Note: (i) Answer all the 14 questions.

12×1=12

(ii) Choose the most suitable answer from the given four alternative and write the option code with the corresponding answer.

- To project the rockets which of the following principles is/are required?
a) Newton's third law of motion b) Newton's law of gravitation
c) Law of conservation of linear momentum d) Both a and c
- Kilowatt hour is the unit of _____.
a) resistivity b) conductivity c) electrical energy d) electrical power
- _____ element emits its radiation spontaneously.
a) Ni b) Pd c) Pt d) U
- Which of the following is a triatomic molecule?
a) Glucose b) Helium c) Carbon dioxide d) Hydrogen
- _____ is an important metal to form amalgam.
a) Ag b) Hg c) Mg d) Al
- The component present in lesser amount, in a solution is called _____.
a) Solute b) Solvent c) Solution d) Colloid
- A patient with blood group 'O' was injured in an accident and has blood loss. In this condition the doctor should effectively use _____ blood group for transfusion.
a) 'O' group b) 'AB' group c) 'A' or 'B' group d) All blood group
- Excessive consumption of alcohol leads to _____.
a) Loss of memory b) Cirrhosis of liver
c) state of hallucination d) Suppression of brain function
- _____ is formed during anaerobic respiration
a) Carbohydrate b) Ethyl alcohol c) Acetyl CoA d) Pyruvate
- Casparian strips are present in the _____ of the root.
a) Cortex b) Pith c) Pericycle d) Endodermis
- The soft finely stratified sedimentary rock refers to _____.
a) shale b) petroleum c) methane d) coal
- All files are stored in the _____.
a) folder b) box c) paint d) scanner

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b

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- ★ Vapour density is the ratio of the mass of a certain volume of a gas or vapour to the mass of an equal volume of hydrogen measured under the same conditions of temperature and pressure.

$$\text{Vapour Density (V. D)} = \frac{\text{Mass of a given volume of gas or vapour at STP}}{\text{Mass of same volume of H}}$$

- ★ According to Avogadro's law equal volumes of all gases contain equal number of molecules. Thus let the number of molecules in one volume = n. Then,

$$\text{V. D at STP} = \frac{\text{Mass of 'n' molecules of a gas on vapour at STP}}{\text{Mass of 'n' molecules of hydrogen}}$$

- ★ Cancelling 'n' which is common, you get

$$\text{V. D} = \frac{\text{Mass of 1 molecule of a gas or vapour at STP}}{\text{Mass of 1 molecules of hydrogen}}$$

- ★ Since hydrogen is diatomic

$$\text{V. D} = \frac{\text{Mass of 1 molecule of a gas or vapour at STP}}{\text{Mass of 2 atoms of hydrogen}}$$

- ★ By comparing the definition of relative molecular mass and vapour density we can write as follows:

$$\text{V. D} = \frac{\text{Mass of 1 molecule of a gas or vapour at STP}}{2 \times \text{Mass of 1 atom of hydrogen}}$$

- ★ Relative molecular mass (hydrogen scale)

$$\text{V. D} = \frac{\text{Mass of 1 molecule of a gas or vapour at STP}}{\text{Mass of 1 atom of hydrogen}}$$

- ★ By substituting the relative molecular mass value in vapour density definition,

$$\text{we get vapour density V. D} = \frac{\text{Relative molecular mass}}{2}$$

$$2 \times \text{vapour density} = \text{Relative molecular mass of a gas.}$$

27. Corrosion of metals is prevented:

- | | |
|-----------------------------------|------------------------------------|
| ★ By coating with paints. | ★ By sacrificial protection. |
| ★ By alloying with other metals. | ★ By electroplating. |
| ★ By coating with oil and grease. | ★ By the process of galvanization. |

To Achieve Your Target Plan Well

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e.g: Solubility of gases in liquids are carbonated beverages. i.e soft drink.

35. a) i) Thyroid hormones referred as personality hormones because they are essential for normal physical, mental and personality development.

ii) **Triple fusion:**

The fusion involving two polar nucleus and sperm nucleus, that occurs in double fertilization in a seed plant and results in the formation of endosperms is called the triple fusion.

iii) **The importance of forest:**

- ★ Forests are the important component of our environment.
- ★ Forests provide a vast habitat for wild animals.
- ★ Forests help for the economic development of our country.
- ★ The natural hazards like food and landslides are prevented.
- ★ Forests maintain the ecological balance.
- ★ It acts as a catchment for water conservation.
- ★ Forests provides wood, food, fodder, fibre and medicine.

(OR)

- b) i) **Parasitic adaptations of leech:**

- ★ Blood is sucked by pharynx.
- ★ Anterior and posterior suckers are provided by which the animal attaches itself to the body of the host.
- ★ The three jaws inside the mouth causes a painless Y-shaped wound in the skin of the host.
- ★ The salivary glands produce hirudin which does not allow the blood to coagulate. So the continuous supply of blood is maintained.
- ★ Parapodia and Setae are absent.

ii) **Natural selection is a driving force for evolution:**

Darwin published his observations under the name "ORIGIN OF SPECIES". It elaborates on the theory of natural selection for evolutionary transformation.

1. Overproduction:

Living beings have the ability to reproduce and have the capacity to multiply in a geometrical manner.

2. Struggle for existence:

Due to overproduction a geometric ratio of increase in population occurs. The space to live and food available for the organisms remain the same. The competition among the organisms for food and space, leading to struggle.

3. Variations:

Small variations are important for evolution. According to Darwin favourable variations are useful to the organisms and unfavourable variations are harmful or useless to the organisms.

Origin of species:

According to Darwin new species originates by the gradual accumulation of favourable variations for a number of generations.

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PTA - MODEL QUESTION PAPER - 1

CLASS: X

SCIENCE

Question
Paper

2

Time allowed: 15 mins + 3 hrs

Marks: 75

PART - I

Note: (i) Answer all the 14 questions.

12×1=12

(ii) Choose the most suitable answer from the given four alternative and write the option code with the corresponding answer.

- Impulse is the
 - rate of change of momentum
 - rate of change of force and time
 - change of momentum
 - rate of change of mass
- If a substance is heated or cooled, then the mass of that substance
 - increases
 - decreases
 - remains same
 - either increases or decreases
- Arrange the following media in descending order on the basis of speed of sound
 - air>glass>water
 - water>air>glass
 - glass<water<air
 - glass>water>air
- Which of the following is a triatomic molecule?
 - Glucose
 - Helium
 - Carbon dioxide
 - Hydrogen
- In modern periodic table of elements _____ group contains the elements of halogen family.
 - 17th
 - 15th
 - 18th
 - 16th
- While doing a science practical experiment, a student left a bottle opened after usage which contained solid sodium hydroxide. When the student visited the laboratory again after few days and found only liquid sodium hydroxide in the bottle. This is due to _____ property of sodium hydroxide.
 - hygroscopic
 - deliquescence
 - dehydration
 - dissociation
- According to the dental formula _____ kind of teeth is absent in rabbit.
 - molar
 - pre-molar
 - incisor
 - canine
- The part of human brain which acts as relay centre is
 - pons
 - thalamus
 - cerebrum
 - cerebellum
- The type of cell division occurs in generative cell of mature pollen grain
 - mitosis
 - meiosis
 - amitosis
 - both b and c
- The best way of direct dating of fossils of recent origin is _____.
 - radio-carbon method
 - uranium-lead method
 - potassium-argon method
 - both b and c
- Word 'No Tobacco Day' is observed on _____.
 - May 31
 - June 6
 - April 22
 - October 2
- Which of the following is used to build scripts?
 - script area
 - block palette
 - stage
 - sprite

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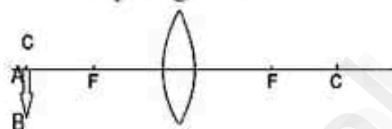
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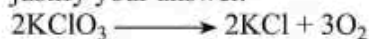
30. i) How does leech respire?
 ii) Why is vegetative propagation practiced for growing some types of plants?
31. How does fossilization occur in plants?
32. i) From the following clues identify the group number in the periodic table and write the names of any two elements of that group.
 a. The atoms of this group have very stable electronic configuration.
 b. These elements are mostly unreactive.
 ii) Why ethene is more reactive than ethane?

PART - IV**Note: (i) Answer all the questions. (ii) Each question carries seven marks.****(iii) Draw the diagram wherever necessary.****3×7=21**

33. a) i) An Object AB is placed at the centre of curvature C of the convex lens as shown in the picture. Complete the ray diagram.



- ii) A Student in a class room can read text book but he/she can't able to see the letters on the black board distinctly. Write the name of his/her eye defect and what is the cause? Suggest a remedy.
- iii) ${}_{92}\text{U}^{235}$ experiences one α decay. Find the number of neutrons in the final daughter nucleus that is formed. **(OR)**
- b) i) What is meant by electric current?
 ii) Define the unit of electric current.
 iii) Which instrument is used to measure the electric current? How should it be connected in a circuit?
 iv) List any two merits of LED bulb.
34. a) i) The electronic configuration of metal A is 2, 8, 18, 1. Metal A when exposed to air and moisture forms a green coloured compound B. A reacts with con. H_2SO_4 to forms compounds C and D along with water. D is a gaseous compound. Identify A, B, C and D.
 ii) The molecular formula of an alcohol is $\text{C}_4\text{H}_{10}\text{O}$. The locant number of its $-\text{OH}$ group is 2.
 a) Draw its structural formula.
 b) Write its IUPAC name.
 c) Write whether it is a saturated compound or an unsaturated compound? **(OR)**
- b) i) Analyse the following statement about the formation of solutions and explain with example. "Like solvents dissolve Like solutes"
 ii) Classify the following chemical reactions based on rearrangement of atoms and justify your answer.



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PTA - MODEL QUESTION PAPER - 2

CLASS: X

SCIENCE

Question
Paper

3

Time allowed: 15 mins + 3 hrs

Marks: 75

PART - I

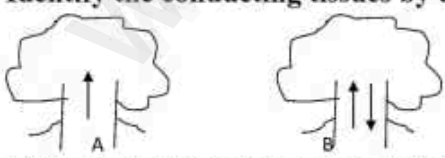
Note: (i) Answer all the 14 questions.

12×1=12

(ii) Choose the most suitable answer from the given four alternative and write the option code with the corresponding answer.

- The eye defect 'presbyopia' can be corrected by
a) convex lens b) concave lens c) convex mirror d) Bi focal lens
- The effective resistance of three resistors of resistances $5\ \Omega$, $3\ \Omega$, and $2\ \Omega$ are connected in series is _____.
a) $1.03\ \Omega$ b) $10\ \Omega$ c) $0.97\ \Omega$ d) $2.5\ \Omega$
- In Beta decay _____.
a) number of neutron decreases by one b) atomic number decreases by one
c) number of proton increases by one d) number of neutron increases by one
- Volume percentage of solutions decreases with the increase in temperature due to
a) thermal expansion of liquids b) cooling effect of liquids
c) increase in concentration of solution d) decrease in concentration of solution
- Choose the correct option that shows a perfect match in the following table.

A	Heterocyclic compound	I	Benzene
B	Unsaturated compound	II	Potassium stearate
C	Soap	III	Furan
D	Carbocyclic compound	IV	Ethene

- A-I, B-II, C-III, D-IV
 - A-III, B-IV, C-II, D-I
 - A-II, B-I, C-IV, D-III
 - A-IV, B-II, C-III, D-I
- In a combustion reaction,
a) oxygen gas is released b) nitrogen gas is released
c) oxygen gas is utilised d) nitrogen gas is utilised
 - Identify the conducting tissues by using the arrow marks


a) A is phloem, B is xylem
b) A is xylem, B is phloem
c) Both A and B are xylem
d) Both A and B are phloem
 - Which of the following is referred to as "Master Gland".
a) Pineal gland b) Pituitary gland c) Thyroid gland d) Adrenal gland
 - The formation of nucleolus in the nucleus is by
a) secondary constriction b) primary constriction
c) telomere d) locus

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- ii) Write any four medical applications of radioactivity.
34. a) i) Calculate the mass percentage of each element present in calcium carbonate molecule. (Mass number C - 12, O - 16, Ca - 40)
- ii) In what way hygroscopic substances differ from deliquescent substances? Write three differentiating points. (OR)
- b) i) Fill the blanks in the table using IUPAC nomenclature of organic compounds.

Name of the compound	Structural formula	Functional group present
_____	$\begin{array}{c} \text{CH}_3 - \text{CH} - \text{CH}_3 \\ \\ \text{OH} \end{array}$	-OH
Ethanal	$\begin{array}{c} \text{CH}_3 - \text{C} - \text{H} \\ \\ \text{O} \end{array}$	_____
Butanone	_____	>C=O
_____	CH ₃ -CH ₂ -CH ₂ -COOH	-COOH

- ii) A is the second most abundant metal available next to aluminium on the earth. A forms its magnetic oxide B, when steam is passed over metal A in red hot condition. A forms an alloy C with carbon and nickel. C is used to make aircraft parts and propeller. Identify and write names of B and C. Write the balanced chemical equation for the formation of magnetic oxide.
35. a) i) Match the following.

Organs	Membranous Covering	Location
Brain	pleura	abdominal cavity
Kidney	capsule	mediastinum
Heart	meninges	enclosed in thoracic cavity
Lungs	pericardium	cranial cavity

- ii) How is Corpus luteum formed? Name the hormones secreted by corpus luteum.
- iii) Write the importance of fertilization in plants. (OR)
- b) i) Arun was playing in the garden. Suddenly he saw a dragon fly sitting on a plant. He observed the wings of it. He thought it looked similar to the wing of a crow. Is he correct? Give reason for your answer.
- ii) Although coal and petroleum are produced by degradation of biomass, yet we need to conserve them. Why?

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PTA - MODEL QUESTION PAPER - 3

CLASS: X

SCIENCE

Question
Paper

4

Time allowed: 15 mins + 3 hrs

Marks: 75

PART - I

Note: (i) Answer all the 14 questions.

12×1=12

(ii) Choose the most suitable answer from the given four alternative and write the option code with the corresponding answer.

- The coefficient of linear expansion depends on _____.
a) original length b) increasing temperature
c) nature of material d) (a) and (b)
- SI unit of specific resistance is _____.
a) mho b) ohm/metre c) ohm d) ohm metre
- The elements having atomic number is _____ undergo spontaneous radioactivity.
a) more than 83 b) less than 83 c) less than 73 d) equal to 83
- 25 percent (25%) ethanol solution means
a) 25 ml ethanol in 100 ml of water b) 25 ml ethanol in 25 ml of water
c) 25 ml ethanol in 75 ml of water d) 75 ml ethanol in 25 ml of water
- The amount of product formation in a reversible reaction _____ when the periodic removal of the product takes place.
a) increases b) decreases
c) first decreases then increases d) first increases and then decreases
- Analyse the following and choose the correct statement(s).
i) An electron has considerable mass
ii) A hetero atomic molecule is formed from different kinds of atoms.
iii) Mass number and atomic mass of an element are same.
a) i, ii and iii are correct b) i and iii are correct
c) only ii is correct d) only iii is correct
- During photosynthesis at which of the following state, oxygen is produced.
a) when ATP is converted to ADP b) when CO₂ is fixed
c) when H₂O is splitted d) all of these
- Root hairs are
a) cortical cell b) projection of epidermal cell
c) unicellular d) both (b) and (c)
- The organism considered to be the fossil bird is _____.
a) Ginkgo biloba b) Archaeopterix c) Paleozoic fern d) Indian Gondwana
- In humans, a male and a female gamete fuse and form the zygote. The condition of zygote is _____.
a) haploid b) diploid c) triploid d) tetraploid

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11. Blood cancer is called _____.

- a) Leukemia b) Sarcoma c) Carcinoma d) Lymphoma

12. In computer _____ is used to collect the notes.

- a) Notepad b) Paint c) Scanner d) Scratch

PART - II

Note: Answer any 7 questions. Question No. 22 is compulsory.

7×2=14

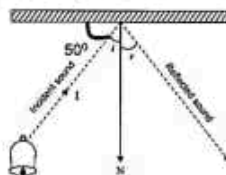
13. Why are traffic signals are used in red colour?
14. State whether the following statement is true or false, justify your answer.
During the process of transferring heat energy, the body at lower temperature is cooled while the body at higher temperature is heated.
15. A source producing a sound of frequency 90 Hz is approaching a stationary listener with a speed equal to (1/10) of the speed of sound. What will be the frequency heard by the listener?
16. Copper is a reddish brown metal, that reacts with O_2 at less than 1370 K to give A, a black coloured compound. At a temperature greater than 1370 K, copper reacts with O_2 to give B which is a red coloured compound. Write the balanced chemical equations for the formation of A and B.
17. Why is the teeth of rabbit called heterodont?
18. What are the structures involved in the protection of brain?
19. Differentiate phenotype and genotype.
20. Assertion: rDNA is superior over hybridization technique.
Reason : Desired genes are inserted without introducing the undesirable genes in target organisms.
a) Assertion is correct and reason is wrong b) Reason is correct and the assertion is wrong
c) Both assertion and reason is correct d) Both assertion and reason is wrong
21. Write the importance of rainwater harvesting.
22. From the value of ionic product of water at $25^\circ C$, find out the concentration of hydroxyl ions. (At $25^\circ C$ concentration of hydrogen ions in water is $10^{-7} \text{ mol/dm}^{-3}$)

PART - III

Note: Answer any 7 questions. Question No. 32 is compulsory.

7×4=28

23. i) Use the analogy to fill the blanks.
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. i) From the given figure, calculate angle of reflection of sound.



- ii) Nuclear fission of a uranium nucleus (U^{235}) as follows

$${}_{92}U^{235} + {}_0n^1 \longrightarrow X + Y + 3{}_0n^1 + Q \text{ (energy)}$$

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PTA - MODEL QUESTION PAPER - 4

CLASS: X

SCIENCE

Question
Paper

5

Time allowed: 15 mins + 3 hrs

Marks: 75

PART - I

Note: (i) Answer all the 14 questions.

12×1=12

(ii) Choose the most suitable answer from the given four alternative and write the option code with the corresponding answer.

1. F be the force between the two bodies placed at a certain distance. If the distance between them is doubled then the gravitational force F will be _____.
a) $2F$ b) $F/2$ c) $F/4$ d) $4F$
2. The scattered light in Raman scattering contains _____ lines.
a) Stoke's b) Anti Stoke's c) Rayleigh's d) all the above
3. Variation in dimensions of any object due to rise in temperature is called as _____.
a) Thermal Expansion b) Thermal variation
c) Thermal convection d) Evaporation
4. If the electronegativity difference between two bonded atoms in a molecule is greater than 1.7 then the nature of bonding is _____.
a) ionic b) covalent c) polar d) co-ordinate covalent
5. Deliquescence is due to
a) Strong affinity to water b) Weak affinity to water
c) Strong hatred to water d) Inertness to water
6. In a chemical equilibrium, the concentrations of reactants and products are _____.
a) remain different b) remain same c) cannot be predicted d) are not equal
7. The blood sucking habit of leech is known as
a) sanguivorous b) herbivorous c) omnivorous d) carnivorous
8. The nervous band connects the two cerebral hemispheres of brain is
a) thalamus b) hypothalamus c) corpus callosum d) pons
9. In metacentric chromosome, the position of centromere is _____.
a) the proximal end b) distal end c) the centre d) near the end
10. DNA fingerprinting is based on the principle of identifying _____ sequences of DNA.
a) single stranded b) mutated c) polymorphic d) repetitive
11. Which of the following is/are fossil fuel?
i. Tar ii. Coal iii. Petroleum
a) i only b) i and ii c) ii and iii d) i, ii and iii
12. More people are using _____ and _____ operating systems in their computers.
a) Mac, Amiga b) Solaris, iOS c) Windows, LINUX d) Android, Minix 3

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*Sun Tuition Center - 9629216361**25***PART - II****Note: Answer any 7 questions. Question No. 22 is compulsory.****7×2=14**

13. Understand the assertion statement and the reason given and choose the correct choice.
 Assertion : Heat always flows from the body of higher temperature to the body of lower temperature.
 Reason : The mass of the body is not altered when it is heated or cooled.
- Both the assertion and the reason are true and the reason is the correct explanation of the assertion.
 - Both the assertion and the reason are true but the reasons is not the correct explanation of the assertion.
 - Assertion is true but the reason is false.
 - Both the assertion and the reason are false.
14. Define the unit of electrical energy consumption?
15. "Aquatic organisms live in large number in cold regions". Write the reason.
16. The hydroxide ion concentration of a solution is 1×10^{-11} M. Find the pH of the solution?
17. What is the common step in aerobic and anaerobic pathway and where is it occur in a cell?
18. Why is the Sino-atrial node called the pacemaker of heart?
19. Name the hormones which regulates water and mineral metabolism in man.
20. Match the following.
- | Column A | Column B |
|---------------------|--|
| a) Atavism | - i) Caudal vertebrae and vermiform appendix |
| b) Vestigial organs | - ii) Radiocarbon dating |
| c) Wood park | - iii) Rudimentary tail and thick hair on the whole body |
| d) W.F. Libby | - iv) Thiruvakkarai |
21. What are the contributing factors for obesity?
22. A strong ultrasonic sound signal is sent from a ship towards the bottom of the sea. It is received by the receiver after 2s. Calculate the depth of sea? The speed of sound in water 1450 ms^{-1} ?

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

23. i) A force 5 N applied on a body produces and accelerations 5 cm s^{-2} . Calculate the mass of the body.
 ii) An object of height 3 cm is placed at 10cm from a convex lens which produces an image at 20 cm from its optical centre. Calculate the magnification and height of the image produced.
24. Match the following.
- | | |
|-------------------------|-----------------|
| a) Electric Current | - i) volt |
| b) Potential difference | - ii) ohm meter |
| c) Specific resistance | - iii) watt |
| d) Electric Power | - iv) ampere |
25. i) In the nuclear reaction given below, the nucleus X changes to nucleus Y.
 ${}_{88}\text{X}^{236} \longrightarrow \text{Y} + {}_2\text{He}^4 + \text{energy}$
 What are the atomic number and mass number of Y?
- ii) Calculate the amount of energy released when a radioactive substance undergoes fusion and results in a mass defect of 1 kg.

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Sun Tuition Center -9629216361**27**

- b) i) Calculate the solubility of a solute at 300 K by dissolving 10 g of solute in 50 g of solvent.
 ii) Explain why micelles formation take place with a diagram when soap is added to water?
35. a) i) How does locomotion take place in leech?
 ii) How are arteries and veins structurally different from one another? **(OR)**
 b) i) How can informational efforts change people's HIV knowledge and behaviour?
 ii) List out the advantages of tidal energy.

ANSWERS**PTA Model Question Paper - 4****Question Paper - 5****PART - I**

- | | |
|--------------------------------|-----------------------|
| 1. c) F/4 | 7. a) sanguivorous |
| 2. d) all the above | 8. c) corpus callosum |
| 3. a) Thermal Expansion | 9. c) the centre |
| 4. a) ionic | 10. d) reptitive |
| 5. a) Strong affinity to water | 11. c) ii and iii |
| 6. b) remain same | 12. c) Windows, LINUX |

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• 10th SCIENCE

PTA - MODEL QUESTION PAPER - 5

CLASS: X

SCIENCE

Question
Paper

6

CLASS: X

SCIENCE

Time allowed: 15 mins + 3 hrs

Marks: 75

PART - I

Note: (i) Answer all the 14 questions.

12×1=12

(ii) Choose the most suitable answer from the given four alternative and write the option code with the corresponding answer.

- The force required to produce an acceleration of 1 cm s^{-2} on a body of mass 1 g is
a) 1 N b) 10 c) 10^2 dyne d) 1 dyne
- If the atoms or molecules of a gas do not interact with each other, then the gas is said to be _____.
a) a real gas b) an ideal gas c) a noble gas d) a rare gas
- The frequency, which is audible to the human ear is _____.
a) 50 k Hz b) 20 k Hz c) 15000 k Hz d) 10000 k Hz
- If a molecule is made of similar kind of atoms, then it is called _____.
a) mono atomic molecule b) hetero atomic molecule
c) homo atomic molecule d) poly atomic molecule
- Match the following and choose the correct option given below the table.

A	Galvanisation	i.	Silver-tin amalgam
B	Calcination	ii.	Coating with Zn
C	Redox reaction	iii.	Heating in the absence of air
D	Dental filling	iv.	Alumino thermic process

- A-i, B-ii, C-iii, D-iv
 - A-i, B-iv, C-iii, D-ii
 - A-ii, B-iii, C-iv, D-i
 - A-i, B-iv, C-i, D-iii
- Which of the following shows the right increasing order of reactivity?
a) $\text{CH} \equiv \text{CH} < \text{CH}_4 < \text{CH}_2 = \text{CH}_2$ b) $\text{CH} \equiv \text{CH} < \text{CH}_2 = \text{CH}_2 < \text{CH}_4$
c) $\text{CH}_4 < \text{CH}_2 = \text{CH}_2 < \text{CH} \equiv \text{CH}$ d) $\text{CH}_4 < \text{CH} \equiv \text{CH} < \text{CH}_2 = \text{CH}_2$
 - Structure in roots that help to absorb water is _____.
a) root hair b) cuticle c) phloem d) root cap
 - In the islets of Langerhans, beta cells secrete _____.
a) Glucagon b) Insulin c) Thymosin d) Oxytocin
 - The theory of natural selection for evolution was proposed by _____.
a) Harshberger b) Libby c) Lamarck d) Charles Darwin
 - Cancer of the epithelial cells is called _____.
a) Leukemia b) Sarcoma c) Carcinoma d) Lymphoma

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- b) Generally the rate of a chemical reaction increases on raising the temperature. Why?
26. i) Give the balanced chemical equation of the following reactions:
 a) Neutralization of NaOH with ethanoic acid.
 b) Oxidation of ethanol by acidified potassium dichromate
 ii) Can nickel spatula be used to stir copper sulphate solution? Justify your answer.
27. Compound A is a colourless having burning taste. When the vapour of compound A is passed over heated copper at 573 K, it is dehydrogenated to acetaldehyde. What is compound 'A'? What is the role of copper in this chemical reaction? Write the balanced chemical equation of this reaction.
28. Draw the structure of a dicot root and label the parts.
29. i) Correct the false statements:
 a) The vas deferens serves to transport the ovum.
 b) The cerebral hemispheres of rabbit are connected by band of nerve tissue called corpora quadrigemina.
 ii) Who discovered Rh factor? Why it is called as Rh factor?
30. i) How does developing embryo gets its nourishment inside the mother's body?
 ii) Discuss the method of plant breeding for disease resistance.
31. Natural selection is a driving force for evolution - How?
32. i) At what height from the centre of the earth surface, the acceleration due to gravity will be $\frac{1}{4}$ th of its value on the surface of the earth.
 ii) In common What is the value of least distance of distinct vision of a human?

PART - IV

Note: (i) Answer all the questions. (ii) Each question carries seven marks.**(iii) Draw the diagram wherever necessary.****3×7=21**

33. a) i) Differentiate the defects: Myopia and Hypermetropia.
 ii)



An electric lamp of resistance 20 ohm and a resistance of 4 ohm are connected in series to a 6 V battery as shown in the figure.

- a) Find the total resistance of the circuit.
 b) Find the current flowing through the circuit.
 c) Find the potential difference across the resistance. **(OR)**
- b) i) What is the co-efficient of cubical expansion.
 ii) Explain why the ceilings of concert halls are curved.
 iii) Differentiate Nuclear fission and Nuclear fusion.
34. a) i) Derive the relationship between Relative molecular mass and vapour density.
 ii) Explain the mechanism of cleansing action of soap. **(OR)**
- b) i) Give reason for the following statements on periodic trends in modern periodic table of elements.

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* 10th SCIENCE

GOVT. QUESTION PAPER - Sep. 2021

CLASS: X

SCIENCE

Question
Paper

7

Time allowed: 15 mins + 3 hrs

Marks: 75

PART - I

Note: (i) Answer all the 14 questions.

12×1=12

(ii) Choose the most suitable answer from the given four alternative and write the option code with the corresponding answer.

- To project the rockets which of the following principle(s) is/are required?
a) Newton's third law of motion b) Newton's law of gravitation
c) Law of conservation of linear momentum d) Both (a) and (c)
- SI unit of resistance is _____.
a) Mho b) Joule c) Ohm d) Watt
- Sound waves travel in air with a speed of about _____ at NTP.
a) 340×10^8 m/s b) 340 m/s c) 3×10^8 m/s d) 3×10^{-8} m/s
- Unit of radioactivity is _____.
a) Roentgen b) Curie c) Becquerel d) All of the above
- Alloy used in the manufacturing of pressure cooker is _____.
a) Brass b) Bronze c) Magnalium d) Duralumin
- The IUPAC name of an organic compound is 3-methyl butan-1-ol. What type of compound it is?
a) Aldehyde b) Carboxylic Acid c) Ketone d) Alcohol
- The concept of blood group is derived by _____.
a) Wiener b) Karl Landsteiner c) William Harvey d) His
- Syngamy results in the formation of _____.
a) Zoospores b) Conidia c) Zygote d) Chlamydospores
- The large elongated cells that provide nutrition to developing sperms are _____.
a) Primary germ cells b) Sertoli cells c) Leydig cells d) Spermatogonia
- Life originates from pre-existing life was showed by
a) Louis Pasteur b) Oparin c) Haldane d) Lamarck
- Pusa Komal is a disease resistant variety of _____.
a) Sugar cane b) Rice c) Cow pea d) Maize
- _____ is a rice variety produced by mutation breeding that grows well in saline soil.
a) Sharbati Sonora b) Atomita 22 c) Pusa Gaurav d) Himgiri

PART - II

Note: Answer any 7 questions. Question No. 22 is compulsory.

7×2=14

- When a sound wave travels through air, the air particles.

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10th SCIENCE

GOVT. QUESTION PAPER - May 2022

CLASS: X

SCIENCE

Question
Paper

8

Time allowed: 15 mins + 3 hrs

Marks: 75

PART - I

Note: (i) Answer all the 14 questions.

12×1=12

(ii) Choose the most suitable answer from the given four alternative and write the option code with the corresponding answer.

- Where should an object be placed so that a real and inverted image of same size is obtained by a convex lens?
a) f b) infinity c) 2f d) between f and 2f
- If a molecule is made of similar kind of atoms, then it is called _____ molecule.
a) mono atomic b) hetero atomic c) homo atomic d) poly atomic
- The number of components in a binary solution is _____.
a) 2 b) 3 c) 4 d) 5
- A charge of 12 coulomb flows through a bulb in 5 second. What is the current through the bulb?
a) 60 A b) 17 A c) 2.4 A d) 24 A
- Rectified spirit is an aqueous solution which contains about _____ of ethanol.
a) 95.5 % b) 75.5 % c) 55.5 % d) 45.5 %
- The endarch condition is the characteristic feature of _____.
a) root b) stem c) leaves d) flowers
- The heart of fishes possess _____ chambers.
a) 3 b) 4 c) 2 d) 5
- Male gametes in angiosperms are formed by the division of _____.
a) Generative cell b) Vegetative cell c) Pollen grain mother cell d) Microscope
- Which one is referred as "Master Gland"?
a) Pineal gland b) Pituitary gland c) Thyroid gland d) Adrenal gland
- Himgiri developed by hybridization and selection for disease resistance against rust pathogens is a variety of _____.
a) chilli b) maize c) sugarcane d) wheat
- Match the following:

1) Solar Energy	-	i) Flowing water
2) Petroleum	-	ii) Mobile phone
3) Hydropower	-	iii) Inexhaustible energy
4) Electronic device	-	iv) Exhaustible energy resource

a) (1)-(iv), (2)-(iii), (3)-(ii), (4)-(i)	b) (1)-(iii), (2)-(iv), (3)-(i), (4)-(ii)
c) (1)-(iii), (2)-(i), (3)-(iv), (4)-(ii)	d) (1)-(i), (2)-(iv), (3)-(ii), (4)-(iii)

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MODEL QUESTION PAPER - 9

SCIENCE

TIME : 02.45 hours

TOTAL MARKS: 75

PART - I

CHOOSE THE CORRECT ANSWER

(12 × 1 = 12)

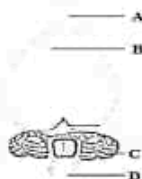
1. In which of the following sport the turning of effect of force used
a) swimming b) tennis c) cycling d) hockey
2. Magnification of a convex lens is
a) Positive b) negative c) either positive or negative d) zero
3. Gamma radiations are dangerous because
a. it affects eyes & bones b. it affects tissues
c. it produces genetic disorder d. it produces enormous amount of heat
4. ____ group contains the member of halogen family.
a) 17th b) 15th c) 18th d) 16th
5. The secondary suffix used in IUPAC nomenclature of an aldehyde is ____
a) - ol b) - oic acid c) - al d) - one
6. Photolysis is a decomposition reaction caused by ____
a. heat b. electricity c. light d. mechanical energy
7. Krebs's cycle takes place in
a) chloroplast b) mitochondrial matrix c) stomata d) inner mitochondrial membrane
8. **Heart of heart** is called
a) SA node b) AV node c) Purkinje fibres d) Bundle of His
9. Avena coleoptile test was conducted by
a) Darwin b) N. Smit c) Paal d) F.W. Went
10. Which one of the following is an IUCD?
a) Copper - T b) Oral pills c) Diaphragm d) Tubectomy
11. 9 : 3 : 3 : 1 ratio is due to
a) Segregation b) Crossing over c) Independent assortment d) Recessiveness
12. We can cut the DNA with the help of
a) scissors b) restriction endonucleases c) knife d) RNAase

PART - II

ANSWER ANY SEVEN QUESTION (Q.NO : 22 is compulsory)

(7 × 2 = 14)

13. State Newton third law of motion?
14. What is coefficient of cubical expansion?
15. What are isotopes?
16. Name the acid that renders aluminium passive. Why?
17. Differentiate soap and detergents.
18. Mention the functions of endosperm.
19. Write the dental formula of rabbit.
20. Define genetic engineering.
21. Identify the parts of A, B, C and D



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MODEL QUESTION PAPER - 10

STD: 10

TIME: 2.30 Hrs

EXAM NO:

SCIENCE

MARK: 75

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SECTION-A

I CHOOSE THE BEST ANSWER

(12 × 1 = 12)

- One kilogram force equal to
a) 9.8 dyne b) $9.8 \times 10^4 \text{ N}$ c) 98×10^4 d) 980 dyne
- Power of a lens is -4D, then its focal length is
a) 4m b) -40m c) -0.25m d) -2.5m
- Kilowatt hour is the unit of
a) Resistivity b) Conductivity c) Electrical energy d) Electrical power
- _____ aprons are used to protect us from gamma radiation
a) Lead oxide b) Iron c) Zinc d) Aluminium
- Isotones have equal number of
a) Proton b) Electron c) Neutron d) Positron
- Modern periodic law is based on _____
a) Atomic mass b) Atomic number c) Number of neutron d) Both (a) and (b)
- 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
- The organic compound contains 2 carbon atoms, the root word according to IUPAC is
a) Meth- b) Eth- c) Prop- d) But-
- Casparian strips are present in the _____
a) Cortex b) Pith c) Pericycle d) Endodermis
- The body of leech has
a) 23 segments b) 33 segments c) 38 segments d) 30 segments
- Who is called "Father of green Revolution"?
a) Dr M.S. Swaminathan b) Dr. Normal E. Borlong c) Both of them d) None of them
- Which is used to build scripts?
a) Script area b) Block palette c) Stage d) Sprite

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SECTION-B

II Answer any seven question only (Q.NO.22 compulsory)

(7 × 2 = 14)

13. Why are traffic signals red in colour?
14. State Rayleigh's law of scattering .
15. Why is tungsten metal used in bulbs , but not in fuse wires?
16. What is Molar volume of a gas?
17. Answer the following question using the data given below:

Assertion: the nature of bond in HF molecule is ionic .

Reason : The electro negativity difference between H and F is a 1.9.

(i) A and R are the correct ,R explain the A

(ii) A is correct , R is wrong .

(iii) A is wrong , R is correct.

(iv) A and R are correct , R doesn't explain A.

18. What is cardiac cycle?
19. Difference between voluntary and involuntary actions.
20. What are chemical messengers?
21. What is Scratch?
22. What will be the frequency of sound having 0.20 m as its wavelength, when it travels with a speed of 331ms^{-1} ?

SECTION-C

(7 × 4 = 28)

III) Answer any seven question (compulsory Q.No.32)

23. Differentiate mass and weight
24. State law of refraction
25. a)What are the merits of LED Tv over the normal Tv?
b) List the merits of LED bulb.
26. Compare the properties of alpha and Beta radiation.
27. What is isotopes and isobars. give each one example.
28. Difference between atom and molecule.
29. Differentiate between dicot and monocot stem.
30. With a neat a labelled diagram describe the parts of typical angio spermic ovaule.

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MODEL QUESTION PAPER -12

Class: **X STD** Subject: **SCIENCE** Marks: 75 Time: 3 hrs

I. Choose the best answer(12x1=12)

1. In which of the following sport the turning of effect of force used
a) swimming b) tennis c) cycling d) hockey
2. The eye defect 'presbyopia' can be corrected by
a) convex lens b) concave lens c) convex mirror d) Bi focal lenses
3. _____ aprons are used to protect us from gamma radiations
a. Lead oxide b. Iron c. Lead d. Aluminium
4. _____ is a relative periodic property
a) atomic radii b) ionic radii c) electron affinity d) electronegativity
5. When pressure is increased at const temp the solubility of gases in liquid ____
a. No change b. increases c. decreases d. no reaction
6. TFM in soaps represents _____ content in soap
a. mineral b. vitamin c. fatty acid d. carbohydrate
7. Kreb's cycle takes place in _____
a. chloroplast b. mitochondrial matrix c. stomata d. inner mitochondrial membrane
8. The body of leech has
a) 23 segments b) 33 segments c) 38 segments d) 30 segments
9. The wall of human heart is made of
a) Endocardium b) Epicardium c) Myocardium d) All of the above

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10. Nerve cells do not possess
(a) neurilemma (b) sarcolemma (c) axon (d) dendrites
11. Syngamy results in the formation of _
a) Zoospores b) Conidia c) Zygote d) Chlamydospores
12. Which is used to build scripts? a)Script area b) Block palette c)stage d)sprite

II. Answer any 7 (Q.No.22 is compulsory) (7x2=14)

- 13.State the principle of moments
14. Why are traffic signals red in colour?
15. State Boyle's law
16. Calculate the number of moles in 46 g of sodium?
17. The aquatic animals live more in cold region Why
18. Draw and label the structure of oxysomes
19. How is diastema formed in rabbit?
20. What are heart sounds? How are they produced?
21. Define reflex arc.
22. A solution was prepared by dissolving 25 g of sugar in 100 g of water.
Calculate the mass percentage of solute

III. Answer any 7 (Q.No.32 is compulsory) (7x4=28)

23. a.At what height from the centre of the Earth the acceleration due to gravity will be 1/4th of its value as at the Earth.
b. Calculate the velocity of a moving body of mass 5 kg whose linear momentum is 2.5 kg m s⁻¹.
- 24 .a. Distinguish between linear, arial and superficial expansion.
b. Distinguish between the resistivity and conductivity of a conductor.
25. a.Calculate the volume occupied by 2.5 mole of CO₂ at S.T.P
b. State two conditions necessary for rusting of iron
26. a, Differentiate reversible and irreversible reactions
b. Differentiate soaps and detergents.
- 27 .a. Write a short note on mesophyll
b. What is respiratory quotient?
- 28 .a. Why are the rings of cartilages found in trachea of rabbit?
b. Differentiate between systemic circulation and pulmonary circulation.
29. a. Bring out any two physiological activities of abscisic acid
b. Why are thyroid hormones refered as personality hormone?

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SUN TUITION CENTER - 9629216361**MODEL QUESTION PAPER -13**Class: **X STD** Subject: **SCIENCE** Marks: 75 Time: 3 hrs**I. Choose the best answer(12x1=12)**

1. Linear Momentum =
a) Length x mass b) breadth x mass c) mass x velocity d) All
2. Energy of the incident beam of light and scattered beam of light are same
a) Mie scattering b) Raman scattering c) elastic scattering d) Inelastic scattering
3. ___ is important part of human eye and convex in nature.
a. Pupil b. Retina c. Iris d. Eye Lens
4. 1 Rd = ___ disintegrations per second
a) 10^6 b) 10^{-6} c) 10^7 d) 10^8
5. Atomic mass of Au = ?
a. 168 b. 178 c. 188 d. 198
6. Acid rain causes if the P^H of rain water is below ___
a. 3.6 b. 4.6 c. 5.6 d. 6.6
7. In chloroplast, thylakoids arranged in the form of discs stacked one above other
a. Envelope b. Stroma c. Plastids d. Grana
8. Biochemical substances derived from leech saliva are used for treatment of
a) Blood sugar b) cancer c) hypertension d) Blood letting
9. Decrease in number of leukocytes called as ___
a) Anemia b) Leucocytosis c) Leukopenia d) Thrombocytopenia

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MODEL QUESTION PAPER-14

Class: X STD Subject: SCIENCE Marks: 75 Time: 3 hrs

I. Choose the best answer(12x1=12)

1. Mass of the Earth is
a) 5.672×10^{24} kg b) 5.972×10^{-24} kg c) 5.972×10^{24} kg d) 5.872×10^{-24} kg
2. The spectral lines having frequency equal to the incident ray frequency called
a) Antistokes lines b) stokes lines c) Raman lines d) Rayleigh line
3. αL is ____ a. Change in length b. Change in temperature c. Coefficient of linear expansion. d. Original length
4. Current is less as effective resistance is more in____
a) series b) parallel c) resistance d) both a,b
5. Formula for Sucrose
a. $C_6H_{12}O_6$ b. $C_{12}H_{12}O_6$ c. $C_{12}H_{22}O_{11}$ d. $C_{12}H_{22}O_{12}$
6. $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$, temp maintained here is
a. $200^\circ C$ b. $300^\circ C$ c. $400^\circ C$ d. $600^\circ C$
7. There are ____different types of vascular bundles
a. two b.three c.four d.five
8. AB blood group was recognized by
a) Steini b) Decastello c) Wiener d) both a,b
9. Polyuria ,deficiency by the hormone
a) FSH b) ADH c) GTH d) TSH

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- 30. a. Voluntary and involuntary actions-Differ
- b. Medullated and non-medullated nerve-Differ
- 31. a. Physiological effects of cytokinins (any two)
- b. Physiological effects of gibberellins (any two)
- 32. Explain the Decarboxylation process with equations.

IV. Answer all (3x7=21)

- 33. a) Explain the equation of state.
- b) Give the Merits of a LED bulb (any 3)
- (OR)
- a. Explain the Categories of sound waves based on their frequencies
- b. Explain the Components of a nuclear reactors.
- 34.. a. Show that $2 \times \text{vapour density} = \text{Relative molecular mass of a gas}$
- b. Noble gases show no tendency to accept electrons-why?
- (OR)
- a. Give the Methods of preventing corrosion
- b. Expand 'TFM'.
- c. How to identify saturated and unsaturated compounds?
- 35 Describe the Structure of Human Heart with labelled diagram.
- (OR)
- a. Explain the Process of Fertilization with diagram.
- b. Enumerate the Functions of thyroid hormones(any two)

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