

SUN TUITION CENTER

MODEL QUESTION PAPER

WITH ANSWER

SCIENCE

10

PTA MODEL QUESTION PAPER - 5

PUBLIC MODEL QUESTION PAPER - 9

ALL SUBJECT QUESTION BANK AVAILABLE

MATHS - Rs. 130

SCIENCE - Rs. 120

SOCIAL SCIENCE - Rs. 120

ENGLISH - Rs. 100

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

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

16. **The rate of a reaction increase while raising the temperature :**

On increasing temperature heat is supplied to the reactant. This energy breaks more bonds and thus speed up the chemical reaction. Foods kept at room temperature spoils faster than that kept in the refrigerator.

17. **Soaps and Detergents**

No.	Soaps	Detergents
1.	It is sodium salt of long chain fatty acids.	It is sodium salts of sulphonic acids.
2.	Soaps are biodegradable.	Most of the detergents are non-biodegradable.
3.	It has poor foaming capacity.	It has rich foaming capacity.
4.	It forms a sum in hard water.	Does not form a scum in hard water.

18. **The dental formula of rabbit:**

is $I \frac{2}{1}, C \frac{0}{0}, PM \frac{3}{2}, M \frac{3}{3}$ in Rabbit, which is written as $\frac{2033}{1023}$.

19. **Bolting:**

- ★ Treatment of rosette plants with gibberellin induces sudden shoot elongation followed by flowering is called bolting.
- ★ It can be induced artificially before the crop is harvested.

20. **The parts of A, B, C & D is:**

A - Exine; B - Intine; C - Generative cell; D - Vegetative nucleus.

21. **Determine the age of fossils:**

The age of fossils is determined by radinactive elements present in it. The elements may be carbon, uranium, lead or potassium. Carbon consumption of animals and plants stops after death and the decaying process of C^{14} occurs continuously. The time passed since death of a plant or animal can be calculated by measuring the amount of C^{14} present in their body.

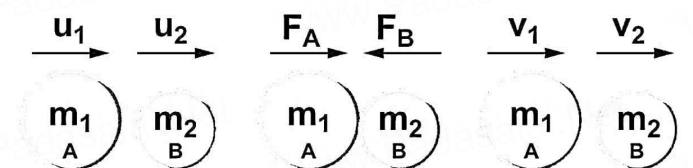
22. **Solution:**

Charge $Q = 12 \text{ C}$, Time = 5s

$$\text{Current } I = \frac{Q}{t} = \frac{12}{5} = 2.4 \text{ A}$$

PART - III23. **The law of conservation of linear momentum:**

There is no change in the linear momentum of a system of bodies as long as no net external force acts on them. Let us prove the law of conservation of linear momentum with the following illustration:



Let two bodies A and B having masses m_1 and m_2 move with initial velocity u_1 and u_2 in a straight line. Let the velocity of the first body be higher than that of the second body.

- ★ 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

2.	It can be performed at room temperature.	Extremely high temperature and pressure is needed.
3.	α , β and γ radiations are emitted.	α rays, positrons and are emitted.
4.	Fission leads to emission of gamma radiation. This triggers the mutation in the human gene and causes genetic transform diseases.	Only light and heat energy is emitted.

ii) **The pH of 0.01 M HNO₃:**

$$[H^+] = 0.01$$

$$pH = -\log_{10}[H^+]$$

$$pH = -\log_{10}[0.01]$$

$$pH = -\log_{10}[1 \times 10^{-2}]$$

$$pH = -[\log_{10}1^{-2} \log_{10}10^0]$$

$$= 0 + 2 \times \log_{10}10^0$$

$$= 0 + 2 \times 1 = 2$$

$$pH = 2$$

PART - IV

33. a) i) **Boyle's law:**

When the temperature of a gas is kept constant, the volume of a fixed mass is kept constant, the volume of a fixed mass of gas is inversely proportional to its pressure.

$$p \propto \frac{1}{v}$$

ii) **The experiment of measuring the real and apparent expansion of a liquid:**

To start with the liquid whose real and apparent expansion is to be determined is poured in a container up to a level. Make this level as L₁.

Now heat the container and the liquid using a burner as shown in the figure initially the container receives the thermal energy and it expands.

As a result the volume of the liquid appears to have reduced. Mark this reduced level of liquid as L₂.

On further heating the thermal energy supplied to the liquid through the container results in the expansion of the liquid. Hence the level of liquid raises to L₃. Now the difference between the levels L₁ and L₃ is called as apparent expansion and the difference between the levels L₂ and L₃ is called real expansion. The real expansion is always more than that of apparent expansion.

$$\text{Real expansion} = L_3 - L_2 ; \text{ Apparent expansion} = L_3 - L_1$$

(OR)

b) i) **Solution:**

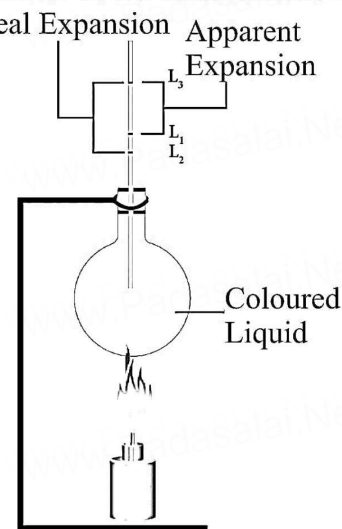
$$n' = \left(\frac{v}{v - V_s} \right) n$$

$$1000 = \left(\frac{330}{330 - 50} \right) n$$

$$n = \left(\frac{1000 \times 280}{330} \right)$$

$$n = 848.48 \text{ Hz}$$

The actual frequency of the sound is 848.48 Hz. When the source is moving



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 flood 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 producer, flirudin 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 evaluation. According to Darwin favourable variations are useful to the organisms and unfavourable variations are harmful on 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.

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

Kindly Send me your district Questions & Keys to email id - Padasalai.net@gmail.com

35. a) i) Define respiratory quotient.
 ii) What is cohesion?
 iii) What are the effects of hybrid vigour in animals?
- b) i) What is 3R approach?
 ii) a. In DNA replication, the enzyme that separates the two strands of DNA is _____.
 b. Enzyme that removes the twists formed during the unwinding process of DNA is _____.
 c. Nucleotides are added with the help of an enzyme called _____.
 d. The DNA fragments are joined together by the enzyme _____.
 e. The replication stops when the replication fork of the two sides meet at the site called _____.

ANSWERS**PTA Model Question Paper - 1****Question Paper 2****PART - I**

- | | |
|--------------------------|----------------------------|
| 1. c) change of momentum | 7. d) canine |
| 2. c) remains same | 8. b) thalamus |
| 3. d) glass>water>air | 9. a) mitosis |
| 4. c) Carbon dioxide | 10. a) radio-carbon method |
| 5. a) 17 th | 11. a) May 31 |
| 6. b) deliquescence | 12. a) script area |

MATHS - Rs.130**SCIENCE - Rs. 120****SOCIAL SCIENCE - Rs. 120****ENGLISH - Rs. 100**

*life is like riding a bicycle to keep your balance,
 you must keep moving*

PTA - MODEL QUESTION PAPER - 2

CLASS: X

SCIENCE

Question
Paper

3

Time allowed: 15 mins + 3 hrs

Marks: 75

PART - I

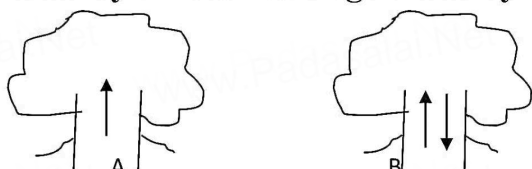
Note: (i) Answer all the 14 questions.

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 b) A-III, B-IV, C-II, D-I
c) A-II, B-I, C-IV, D-III d) 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 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

Kindly Send me your district Questions & Keys to email id - Padasalai.net@gmail.com

ANSWERS

PTA Model Question Paper - 2

Question Paper 3

PART - I

1. d) Bi focal lens
2. b) 10Ω
3. c) number of proton increases by one
4. a) thermal expansion of liquids
5. b) A-III, B-IV, C-II, D-I
6. c) oxygen gas is utilised
7. b) A is xylem, B is phloem
8. b) Pituitary gland
9. a) secondary constriction
10. b) Restriction endonucleases
11. a) hydropower
12. b) script editor

Sun Tuition Center - 9629216361
ONLY MATHS
TUITION
STANDATD - 9th TO 12th

PTA - MODEL QUESTION PAPER - 3

Question
Paper

CLASS: X

SCIENCE

4

Time allowed: 15 mins + 3 hrs

Marks: 75

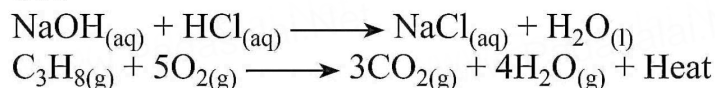
PART - I

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.

1. The coefficient of linear expansion depends on _____.
 - a) original length
 - b) increasing temperature
 - c) nature of material
 - d) (a) and (b)
2. SI unit of specific resistance is _____.
 - a) mho
 - b) ohm/metre
 - c) ohm
 - d) ohm metre
3. 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
4. 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
5. 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
6. 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
7. During photo synthesis 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
8. Root hairs are
 - a) cortical cell
 - b) projection of epidermal cell
 - c) unicellular
 - d) both (b) and (c)
9. The organism considered to be the fossil bird is _____.
 - a) Ginkgo biloba
 - b) Archaeopterix
 - c) Paleozoic fern
 - d) Indian Gondwana
10. 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

b) Which of the following chemical reactions is a neutralization reaction? Reason out.



ii) Read and categorize the following statements that are suitable for ethanol and ethanoic acid.

- 95.5% of this compound's water solution is called rectified spirit.
- Pure form of this compound change into ice like crystals on freezing.
- This compound undergoes decarboxylation on heating with sodalime.

35. a) i) Draw and label the different types of Conjoint vascular bundles.

ii) Give reasons for the following statements.

- The movement of food substances in the phloem can be in all direction.
- Mature RBC in mammals do not have cell organelles. **(OR)**

b) i) What are Okazaki fragments?

ii) Octopus, cockroach and frog all have eyes. Can we group these animals together to establish a common evolutionary origin. Justify your answer.

iii) Write any three differences between Type-1 diabetes and Type-2 diabetes.

ANSWERS

PTA Model Question Paper - 3

Question Paper 4

PART - I

- | | |
|---------------------------------------|---|
| 1. d) (a) and (b) | 7. c) when H ₂ O is splitted |
| 2. d) ohm metre | 8. d) both (b) and (c) |
| 3. a) more than 83 | 9. b) Archaeopterix |
| 4. c) 25 ml ethanol in 75 ml of water | 10. b) diploid |
| 5. a) increases | 11. a) Leukemia |
| 6. c) only ii is correct | 12. a) Notepad |

MATHS - Rs.130

SCIENCE - Rs. 120

SOCIAL SCIENCE - Rs. 120

ENGLISH - Rs. 100

*Your positive action combined with positive thinking
result in success*

PTA - MODEL QUESTION PAPER - 4

Question
Paper

CLASS: X

SCIENCE

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.

- 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
- The scattered light in Raman scattering contains _____ lines.
a) Stoke's b) Anti Stoke's c) Rayleigh's d) all the above
- 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
- 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
- Deliquescence is due to
a) Strong affinity to water b) Weak affinity to water
c) Strong hatred to water d) Inertness to water
- 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
- The blood sucking habit of leech is known as
a) sanguivorous b) herbivorous c) omnivorous d) carnivorous
- The nervous band connects the two cerebral hemispheres of brain is
a) thalamus b) hypothalamus c) corpus callosum d) pons
- In metacentric chromosome, the position of centromere is _____.
a) the proximal end b) distal end c) the centre d) near the end
- DNA fingerprinting is based on the principle of identifying _____ sequences of DNA.
a) single stranded b) mutated c) polymorphic d) repetitive
- 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
- More people are using _____ and _____ operating systems in their computers.
a) Mac, Amiga b) Solaris, iOS c) Windows, LINUX d) Android, Minix 3

- 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 |

SUN TUITION CENTRE -9629216361
 (poon thotta pathai hindu mission hospital opposite
 villupuram)

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 1cm s^{-2} on a body of mass 1g 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) A-i, B-ii, C-iii, D-iv b) A-i, B-iv, C-iii, D-ii
c) A-ii, B-iii, C-iv, D-i d) 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

- a) Along the period, from left to right, the atomic radius value of the elements decrease whereas along the groups, from the top to bottom, the atomic radius values increase.
- b) The electron affinity values increase along the period from left to right and decrease down the group.
- c) The ionization energy value increase along the period from left to right and decrease down the group.
- ii) What is the role of manganese dioxide in the heating reaction of potassium chlorate for the production of oxygen gas?
35. a) i) What is parthenocarpic fruit? Give an example.
- ii) 'A' is a cylindrical structure that begins from the lower end of medulla and extend downwards. It is enclosed in bony cage 'B' and covered by membranes 'C'. As many as 'D' pairs of nerves arise from the structure 'A'
- a) What is A?
- b) Name: bony cage 'B' and membranes 'C'.
- c) How much is D? (OR)
- b) i) Explain the structure of a chromosome.
- ii) Regular physical exercise is advisable for normal functioning of human body. What are the advantages of practising exercise in daily life?

ANSWERS**PTA Model Question Paper - 5****Question Paper 6****PART - I**

- | | |
|--|----------------------|
| 1. d) 1 dyne | 7. a) root hair |
| 2. b) an ideal gas | 8. b) Insulin |
| 3. b) 20 k Hz | 9. d) Charles Darwin |
| 4. c) homo atomic molecule | 10. c) Carcinoma |
| 5. c) A-ii, B-iii, C-iv, D-i | 11. a) Tidal energy |
| 6. c) $\text{CH}_4 < \text{CH}_2 = \text{CH}_2 < \text{CH} \equiv \text{CH}$ | 12. c) file |

MATHS - Rs.130**SCIENCE - Rs. 120****SOCIAL SCIENCE - Rs. 120****ENGLISH - Rs. 100**

Failing to plan is planning to fail

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.

1. 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)
2. SI unit of resistance is _____.
 a) Mho b) Joule c) Ohm d) Watt
3. 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
4. Unit of radioactivity is _____.
 a) Roentgen b) Curie c) Becquerel d) All of the above
5. Alloy used in the manufacturing of pressure cooker is _____.
 a) Brass b) Bronze c) Magnalium d) Duralumin
6. 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
7. The concept of blood group is derived by _____.
 a) Wiener b) Karl Landsteiner c) William Harvey d) His
8. Syngamy results in the formation of _____.
 a) Zoospores b) Conidia c) Zygote d) Chlamydo spores
9. The large elongated cells that provide nutrition to developing sperms are _____.
 a) Primary germ cells b) Sertoli cells c) Leydig cells d) Spermatogonia
10. Life originates from pre-existing life was showed by
 a) Louis Pasteur b) Oparin c) Haldane d) Lamarck
11. Pusa Komal is a disease resistant variety of _____.
 a) Sugar cane b) Rice c) Cow pea d) Maize
12. _____ 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

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

35. a) i) Enumerate the functions of blood.
ii) Guard cells are responsible for opening and closing of stomata. Give reason for this statement. (OR)
- b) i) Suggest measures to overcome the problems of an alcoholic.
ii) What are the contributing factors for obesity?

ANSWERS**Govt. Question Paper - Sep. 2021****Question Paper -7****PART - I**

- | | |
|------------------------|------------------------|
| 1. d) Both (a) and (c) | 7. b) Karl Landsteiner |
| 2. c) Ohm | 8. c) Zygote |
| 3. | 9. b) Sertoli cells |
| 4. d) All of the above | 10. a) Louis Pasteur |
| 5. d) Duralumin | 11. c) Cow pea |
| 6. d) Alcohol | 12. b) Atomita 22 |

'Queen Of Science is Mathematics'

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.

1. 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
2. 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
3. The number of components in a binary solution is _____.
a) 2 b) 3 c) 4 d) 5
4. 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
5. Rectified spirit is an aqueous solution which contains about _____ of ethanol.
a) 95.5 % b) 75.5 % c) 55.5 % d) 45.5 %
6. The endarch condition is the characteristic feature of _____.
a) root b) stem c) leaves d) flowers
7. The heart of fishes possess _____ chambers.
a) 3 b) 4 c) 2 d) 5
8. Male gametes in angiosperms are formed by the division of _____.
a) Generative cell b) Vegetative cell c) Pollen grain mother cell d) Microscope
9. Which one is referred as "Master Gland"?
a) Pineal gland b) Pituitary gland c) Thyroid gland d) Adrenal gland
10. Himgiri developed by hybridization and selection for disease resistance against rust pathogens is a variety of _____.
a) chilli b) maize c) sugarcane d) wheat
11. 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)

30. a) List the theories postulated to explain the origin of life.
b) Who coined the term 'Ethnobotany'?
31. Discuss the importance of biotechnology in the field of medicine.
32. 'A' is a blue coloured crystalline salt. On heating it loses blue colour and gives 'B'. When water is added, 'B' gives back 'A'. Identify 'A' and 'B'. write the equation.

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) What is meant by electric current?
ii) Name and define its unit.
iii) Which instrument is used to measure the electric current? How should it be connected in a circuit? **(OR)**
- b) i) Who discovered natural radioactivity?
ii) Write any three features of natural and artificial radioactivity.
iii) Give any three uses of radio isotopes in the field agriculture.
34. a) i) Define: Atomicity. Give an example.
ii) Consolidate the major differences between atoms and molecules. **(OR)**
- b) i) Define combination reaction.
ii) Give an example for combination reaction.
iii) Differentiate reversible and irreversible reaction.
35. a) i) What are synthetic auxins? Give examples.
ii) Define triple fusion.
iii) Name the secondary sex organs in male. **(OR)**
- b) i) Why did Mendel select pea plant for his experiment?
ii) Suggest measures to overcome the problems of an alcoholic.

ANSWERS

Govt. Question Paper - May 2022

Question Paper - 8

PART - I

1. c) 2f
2. c) homo atomic
3. a) 2
4. c) 2.4 A
5. a) 95.5 %
6. b) stem
7. c) 2
8. a) Generative cell
9. b) Pituitary gland
10. d) wheat
11. b) (1)-(iii), (2)-(iv), (3)-(i), (4)-(ii)
12. d) Jean Baptiste Lamarck - Law of Heredity

Your positive action combined with positive thinking result in success

40

SUN TUITION CENTER - 9629216361**MODEL QUESTION PAPER - IO**

STD: 10

MARK: 75

TIME:2.30 Hrs

EXAM NO:

SCIENCE

--	--	--	--	--	--

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 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

Kindly Send me your district Questions & Keys to email id - Padasalai.net@gmail.com

31. Discuss the importance of biotechnology in the field of medicine.

32. An object of height 3 cm is placed at 10 cm from a concave lens of focal length 15 cm. Find the size of the image.

SECTION-D

IV ANSWER ALL THE QUESTIONS

(3 × 7 = 21)

33.a) i) State Newton's second law.

ii) State and prove the law of conservation of linear momentum.

(OR)

b) i) List any five properties of light.

ii) Derive the ideal gas equation.

34. a) i) Define mole.

ii) How many grams are there in

a) 3 moles of HCl

b) 2 moles of H₂O

c) 4 moles of glucose.

iii) Find the percentage of Nitrogen in ammonia.

(OR)

b) i) What are the methods preventing corrosion?

ii) Write any three uses of copper.

35. a) i) What are Okazaki fragments?

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

(OR)

b) i) Describe and name three stages of cellular respiration that aerobic organisms use to obtain energy from glucose

Std -X**SUN TUITION CENTER - 9629216361****MODEL QUESTION PAPER --11****MARKS: 75****SCIENCE****PART - I**

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

1. Newton's III law is applicable _____
a) for a body is at rest b) for a body in motion c) both a and b d) only for bodies with equal masses
2. In a myopic eye, the image of the object is formed _____
a) behind the retina b) on the retina c) in front of the retina d) on the blind retina
3. The SI unit of coefficient of real expansion is _____
a) K^2 b) K^{-1} c) K^{-2} d) JK^{-1}
4. The current of a 100W, 200V electric bulb in an electric circuit is _____
a) 5 A b) 50 A c) 0.5 A d) 0.05 A
5. If a sound wave travels with a frequency of 1.25×10^4 Hz at 344 ms^{-1} , the wavelength will be _____
a) 27.52 m b) 275.2 m c) 0.02752 m d) 2.752 m
6. _____ isotope is used to increase the productivity of crops.
a) Radio Iodine b) Radio Cobalt c) Radio Carbon d) Radio Phosphorous
7. Gram Atomic mass of Nitrogen is _____.
a) 12 b) 14 c) 16 d) 32
8. The sum of the numbers of protons and neutrons of an atom is called its _____.
a) mass number b) atomic number c) atomicity d) standard atomic number
9. The alloy used for making pressure cookers _____.
a) Duralumin b) Magnalium c) Nickel d) Bronze
10. When pressure is increased at constant temperature the solubility of gases in liquid _____.
a) no change b) increases c) decreases d) no reaction
11. 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
12. Which of the following are used as anaesthetics?
a) Carboxylic acids b) ethers c) Esters d) Aldehydes

PART - II

Answer the following question. (Any 7 & Q. No 22 is compulsory)

7x2=14

13. Match the following.

- | | | |
|-----------------|---|--------------------|
| i) Heterocyclic | - | Potassium stearate |
| ii) Unsaturated | - | Benzene |
| iii) Soap | - | Furan |
| iv) Carboxylic | - | Ethene |

14. Define Combination reaction.

15. A hot saturated solution of copper sulphate forms crystals as it cools. Why?
17. The molecular formula of an Alcohol is $C_4H_{12}O$. The locant number of its $-OH$ group is 2. Draw its structural formula and Give its IUPAC name.
18. How does an astronaut float in a space shuttle?
19. State Rayleigh's law of scattering.
20. What is the coefficient of real expansion?
21. Define Critical mass.
22. What will be the frequency sound having 0.20 m as its wavelength, when it travels with a speed of 331 ms^{-1} ?

PART – III

Answer any seven of the following. (Q. No 32 is compulsory)

7x4=28

23. Deduce the equation of a force using Newton's second law of motion.
24. Explain the rules for obtaining image formed by a convex lens with the help of the diagram.
25. Derive the ideal equation.
26. a) State Joule's law of heating.
b) List the merits of LED bulb.
27. A torch bulb is rated at 3V and 600 mA. Calculate its power, resistance and energy consumed if it is used for 4 hours.
28. Derive the relationship between Relative molecular mass and Vapour density.
29. Explain the smelting process.
30. a) What happens when $MgSO_4 \cdot 7H_2O$ is heated? Write the appropriate equation.
b) Will the cool drinks give more fizz at the top of the hills or at the foot? Explain.
31. What is chemical equilibrium? What are its characteristics?
32. Explain the types of double displacement reactions with examples.

PART – IV

Answer all the questions. Draw diagram wherever is necessary.

3x7=21

33. a) Explain the construction of Compound microscope. b) Which material protects us from radiation? (OR)
a) State the universal law of gravitation and derive its mathematical expression.
b) Why does sound travel faster on a rainy day than a dry day?
34. a) With the help of a circuit diagram derive the formula for the resultant resistance of three resistances connected. i) in series ii) in parallel b) Which hazardous radiation is the cause for the genetic disease? (OR) a) Give the salient features of modern atomic theory.
b) Name the acid that renders aluminium passive why?
35. a) State the reason for addition of caustic alkali to bauxite ore during purification of bauxite.
b) How does the property vary in periods and in groups? (OR)
a) Write notes on various factors affecting solubility.
b) Explain the factors influencing the rate of a reaction.

SUN TUITION CENTER - 9629216361

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

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

Sun Tuition Center - 9629216361

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

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)

MATHS - Rs.130

SCIENCE - Rs. 120

SOCIAL SCIENCE - Rs. 120

ENGLISH - Rs. 100

Mathematics 'is the Question of science'