

Total No. of Questions: 15

Roll No. \_\_\_\_\_  
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**Class 9<sup>th</sup>**  
**Term 2<sup>nd</sup> 2019**  
**Science**

**Series A**

Time: 2:30 Hrs.

Max. Marks: 36

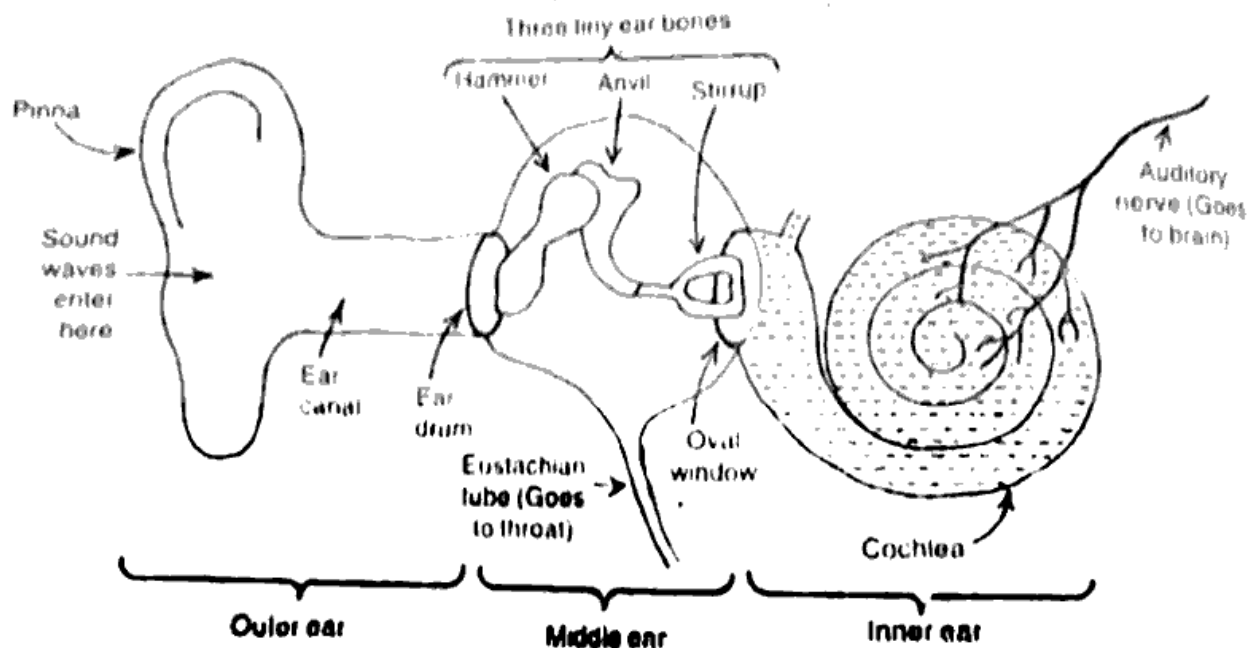
**Physics**

- Q1) State universal law of gravitation? What happens to the gravitational force between two objects, if
- the mass of one object is doubled?
  - the distance between the objects is doubled and tripled?
  - the masses of both objects are doubled?

Or

A stone is allowed to fall from the top of a tower 100 m high and at the same time another stone is projected vertically upwards from the ground with a velocity of 25 m/s. Calculate when and where the two stones will meet? (5)

- Q2) The structure of human ear is shown in the figure below. With the help of this figure, write the working of the human ear.



Q3) How does an object float or sink when placed on the surface of a liquid?

(2)

Q4) When a sound wave travels in air, the physical quantity which is transferred from one place to other is

- i) mass.
- ii) force.
- iii) momentum.
- iv) energy.

(1)

Q5) Sound waves of frequency less than 20 Hz are known as \_\_\_\_\_ waves.

(1)

## Chemistry

Q1) Complete the following table.

Atomic Number	Mass Number	Number of Neutrons	Number of Protons	Number of Electrons	Name of the Atomic Species
9		10			-
16	32				Sulphur
	24		12		-
	2		1		-
	1	0	1	0	-

Or

The average atomic mass of sample of an element X is 16.2u. What are the percentages of isotopes  $^{16}_8X$  and  $^{18}_8X$  in the sample?

(5)

- Q2) i) Write down the formulae of:-
- a) sodium oxide
  - b) aluminium chloride
  - c) magnesium hydroxide
- ii) Write down the chemical name of compounds represented by the following formulae:-
- a)  $\text{CaCl}_2$
  - b)  $\text{K}_2\text{SO}_4$
  - c)  $\text{CaCO}_3$
- Q3) Draw a sketch of Bohr's model of an atom with three shells? (2)
- Q4) The number of electrons in the valence shell of calcium is:-
- i) 6
  - ii) 8
  - iii) 2
  - iv) 4
- (1)
- Q5) Mass of one mole of carbon is \_\_\_\_\_ (1)

## Biology

- Q1) Explain the basis for grouping organisms into five kingdoms?

Or

What is binomial nomenclature? Explain it with the help of an example.

(5)

Q2) What are the reasons of drug abuse? Write the signs and symptoms of drug addiction? (3)

Q3) How do biotic and abiotic factors affect crop production? (2)

Q4) Spiders and scorpions are:-

- i) Insecta
- ii) Millipedes
- iii) Arachnids
- iv) Crustacea

(1)

Q5) Tobacco is \_\_\_\_\_ product.