



## Standard 10

## SCIENCE

Marks: 50

Time: 1.30 Hrs.

## SECTION - A

Choose the most suitable answer:

10×1=10

- 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) The force which produces  $2\text{ms}^{-2}$  acceleration on a body of mass 10 kg is
  - a) 20N
  - b) 10N
  - c) 5N
  - d) 40N
- 3) The eye defect 'Presbyopia' can be corrected by
  - a) convex lens
  - b) concave lens
  - c) convex mirror
  - d) bi focal lenses
- 4) Which of the following is a triatomic molecule?
  - a) Glucose
  - b) Helium
  - c) Carbon dioxide
  - d) Hydrogen
- 5) The basis of modern periodic law is \_\_\_\_\_.
  - a) atomic number
  - b) atomic mass
  - c) isotopic mass
  - d) number of neutrons
- 6) Among the given species  $A^-$ ,  $A^+$  and  $A$  the smallest one in size is \_\_\_\_\_.
  - a)  $A^-$
  - b)  $A^+$
  - c)  $A$
  - d) All species are in same size
- 7) Kreb's cycle takes place in
  - a) chloroplast
  - b) mitochondrial matrix
  - c) stomata
  - d) inner mitochondrial membrane
- 8) Father of plant Anatomy is
  - a) Melvin Calvin
  - b) Kolliker
  - c) Sachs
  - d) Nehemiah Grew
- 9) The body of leech has
  - a) 23 segments
  - b) 33 segments
  - c) 38 segments
  - d) 30 segments
- 10) The blood sucking habit of leech is known as \_\_\_\_\_.
  - a) Viviparous
  - b) Metamears
  - c) Oviparous
  - d) Sanguivorous

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**SECTION - B****Answer ANY SEVEN questions:****7×2=14****[Question No. 20 is compulsory]**

11) Match the following:

**Column I****Column II**

- |   |                                |
|---|--------------------------------|
| a) Newton's I Law                         | - Propulsion of a rocket       |
| b) Newton's II Law                        | - Stable equilibrium of a body |
| c) Newton's III Law                       | - Law of force                 |
| d) Law of conservation of linear momentum | - Flying nature of bird        |

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

13) Why does the sky appear blue in colour?

14) Give any two examples for heterodiatomic molecules.

15) What is amalgam?

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

17) What is respiratory quotient?

18) What is photosynthesis and where in a cell does it occur?

19) How is diastema formed in rabbit?

20) Find the molecular mass of CO<sub>2</sub>. [C - 12 gram, O - 16 gram]**SECTION - C****Answer ANY THREE questions:****3×4=12****[Question No. 25 is compulsory]**

21) List any five properties of light.

22) Describe the methods of preventing corrosion.

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

24) List out the parasitic adaptations in leech.

25) a) Calculate the velocity of a moving body of mass 5 kg whose linear momentum is 2.5 kgms<sup>-1</sup>.

b) Draw and label the structure of oxysomes.

**SECTION - D****Answer ONE question from each part:****2×7=14****PART - I**

26) a) Describe Rocket propulsion.

b) Differentiate mass and weight.

**(OR)**

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

b) What are the applications of Avogadro's Law?

**PART - II**

27) Differentiate the following:

a) Monocot root and Dicot root.

b) Aerobic and Anaerobic respiration.

**(OR)**

Explain the male reproductive system of rabbit with labelled diagram.