

**Standard 10**

Time: 3.00 Hrs.

SCIENCE

Maximum Marks: 75

PART - I**Note: i) Answer all questions.****12×1=12****ii) Choose the most suitable answer.**

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

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

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

V10S

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

PART - III

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

7×4=28

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

PART - IV

Answer ALL questions. Each question carries seven marks:

3×7=21

[Draw diagram wherever necessary]

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

Kindly send me your questions and answerkeys to us : Padasalai.Net@gmail.com