

AMEER TUITION CENTRE

KAYALPATTANAM – 628 204.

Register No :

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MODEL – I & PREPARATORY SSLC PUBLIC EXAMINATION

PART – III

SCIENCE

Time Allowed : 3.00 Hours

Maximum 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 Black or Blue ink to write and pencil to draw diagrams.

Note : This questions paper contains **four** parts.

PART – I

- Note :**
1. Answer **all** the question **12 x 1 = 12**
 2. Choose the most appropriate answer from the given **four** alternative and write the option code and the corresponding answers.

1. Pusa Komal is a disease resistant variety of _____.
 - a. sugarcane
 - b. rice
 - c. cow pea
 - d. maize
2. Which of the following are used as anaesthetics?
 - a. Carboxylic acids
 - b. Ethers
 - c. Esters
 - d. Aldehydes
3. Kilowatt hour is the unit of
 - a) resistivity
 - b) conductivity
 - c) electrical energy
 - d) electrical power
4. An inexhaustible resources is
 - a) wind power
 - b) soil fertility
 - c) wild life
 - d) all of the above
5. Cancer of the epithelial cells is called
 - a) Leukemia
 - b) Sarcoma
 - c) Carcinoma
 - d) Lipoma
6. The xylem and phloem arranged side by side on same radius is called _____.
 - a) radial
 - b) amphivasal
 - c) conjoint
 - d) None of these

7. The sound waves are reflected from an obstacle into the same medium from which they were incident. Which of the following changes?
- a) speed
b) frequency
c) wavelength
d) none of these
8. Root hairs are
- a) cortical cell
b) projection of epidermal cell
c) unicellular
d) both b and c
9. Kamini reactor is located at _____
- a. Kalpakkam
b. Koodankulam
c. Mumbai
d. Rajasthan
10. The _____ units form the backbone of the DNA.
- a) 5 carbon sugar
b) Phosphate
c) Nitrogenous bases
d) Sugar phosphate
11. The unit of 'g' is $m\ s^{-2}$. It can be also expressed as
- a) cms^{-1}
b) Nkg^{-1}
c) Nm^2kg^{-1}
d) cm^2s^{-2}
12. The term Ethnobotany was coined by
- a. Khorana
b. J.W. Harsbberger
c. Ronald Ross
d. Hugo de Vries

PART - II

Note : Answer **any seven** questions. Question **No. 22** is compulsory.

7 x 2 = 14

13. State Ohm's law.
14. What is stellar energy?
15. Define: Relative atomic mass.
16. Classify the following compounds based on the pattern of carbon chain and give their structural formula: (i) Propane (ii) Benzene (iii) Cyclobutane (iv) Furan
17. Draw and label the part of a human sperm cell.
18. Define triple fusion.
19. What are Okazaki fragments?
20. How is a cancer cell different from a normal cell ?
21. What is Sprite?
22. State Avogadro's Law.

PART – III

Note : Answer **any seven** questions. Question **No. 32** is compulsory.

7 x 4 = 28

23. (a) Differentiate mass and weight.

(b) State Snell's law.

24. (a) State Boyle's law

(b) **Match the following**

- | | | |
|-------------------------|---|---------------------|
| 1. Infrasonic | - | (a) Compressions |
| 2. Echo | - | (b) 22 kHz |
| 3. Ultrasonic | - | (c) 10 Hz |
| 4. High pressure region | - | (d) Ultrasonography |

25. (a) $N_2 + 3 H_2 \rightarrow 2 NH_3$

(The atomic mass of nitrogen is 14, and that of hydrogen is 1)

1 mole of nitrogen (_____ g) + 3 moles of hydrogen (_____ g) \rightarrow

2 moles of ammonia (_____ g)

(b) Differentiate reversible and irreversible reactions

26. (a) **Answer the following questions using the data given below:**

Assertion: Alkanes are saturated hydrocarbons.

Reason: Hydrocarbons consist of covalent bonds.

i) A and R are correct, R explains 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.

(b) An organic compound 'A' is widely used as a preservative and has the molecular formula $C_2H_4O_2$. This compound reacts with ethanol to form a sweet smelling compound 'B'.

(i) Identify the compound 'A'.

(ii) Write the chemical equation for its reaction with ethanol to form compound 'B'.

(iii) Name the process.

27. (a) Aerobic and Anaerobic respiration

(b) Write a short note on mesophyll.

28. (a) What is transpiration? Give the importance of transpiration.

(b) Differentiate between systemic circulation and pulmonary circulation.

29. With a neat labelled diagram explain the structure of a neuron.
30. (a) Why are thyroid hormones referred as personality hormone?
(b) Why is Archaeopteryx considered to be a connecting link?
31. (a) Why did Mendel select pea plant for his experiments?
(b) State the applications of DNA fingerprinting technique.
32. A torch bulb is rated at 3 V and 600 mA. Calculate its
a) power
b) resistance
c) energy consumed if it is used for 4 hour.

PART - IV

Note : Answer **all** the question. Draw diagram wherever **necessary**.

3 x 7 = 21

33. (a) State and prove the law of conservation of linear momentum.

(OR)

(b) What is meant by reflection of sound? Explain:

- a) reflection at the boundary of a rarer medium
b) reflection at the boundary of a denser medium
c) Reflection at curved surfaces

34. (a) Explain smelting process.

(OR)

(b) How does pH play an important role in everyday life?

35. (a). (i) What does CNS stand for? (1)

(ii) How does leech suck blood from the host? (2)

(iii) List out the parasitic adaptations in leech. (4)

(OR)

(b) (i) With a neat labelled diagram describe the parts of a typical angiospermic ovule (4)

(ii) Discuss the importance of biotechnology in the field of medicine. (3)

Wish by,

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