

THIRD REVISION TEST-2023 - MAYILADUTHURAI DISTRICT**SCIENCE**

10th Standard

Science

Date : 22-Feb-23

Exam Time : 03:00:00 Hrs

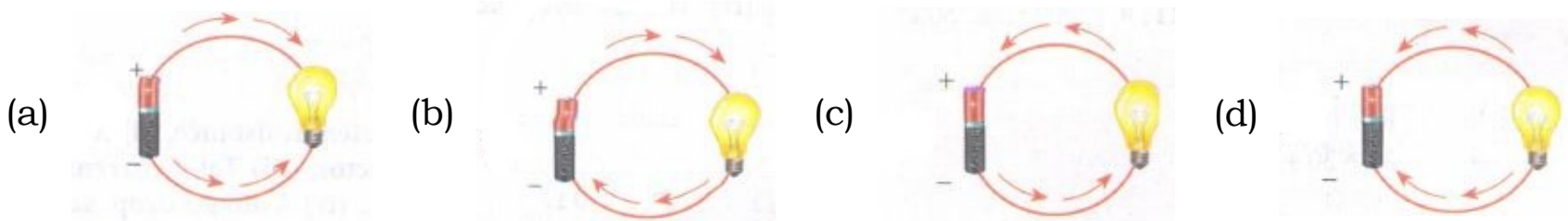
Reg.No. :

Total Marks : 75

12 x 1 = 12

CHOOSE THE CORRECT ANSWER

- 1) If a sound wave travels with a frequency of 1.25×10^4 Hz 344 ms^{-1} , the wavelength will be
 (a) 27.52 m (b) 275.2 m (c) 0.02752 m (d) 2.752 m
- 2) Number of neutrons in ${}_{11}\text{Na}^{23}$ is
 (a) 11 (b) 23 (c) 12 (d) 34
- 3) Which of the following have inert gases 2 electrons in the outermost shell
 (a) He (b) Ne (c) Ar (d) Kr
- 4) The reaction between carbon and oxygen is represented by $\text{C}_{(s)} + \text{O}_{2(g)} \rightarrow \text{CO}_{2(g)} + \text{Heat}$. In which of the type(s), the above reaction can be classified?
 (i) Combination Reaction
 (ii) Combustion Reaction
 (iii) Decomposition Reaction
 (iv) Irreversible Reaction
 (a) i and ii (b) i and iv (c) i, ii and iii (d) i, ii and iv
- 5) Avena coleoptile test was conducted by
 (a) Darwin (b) N. Smit (c) Paal (d) F.W. Went
- 6) Asexual reproduction takes place through budding in _____
 (a) Amoeba (b) Yeast (c) Plasmodium (d) Bacteria
- 7) Polyphagia is a condition seen in
 (a) Obesity (b) Diabetes mellitus (c) Diabetes insipidus (d) AIDS
- 8) Which of the following statement is wrong with respect to wind energy
 (a) wind energy is a renewable energy
 (b) the blades of wind mill are operated with the help of electric motor
 (c) production of wind energy is pollution free
 (d) usage of wind energy can reduce the consumption of fossil fuels.
- 9) All files are stored in the _____
 (a) Folder (b) box (c) Pai (d) scanner
- 10) The value of universal gravitational constituent is
 (a) $6.743 \times 10^{-11} \text{ Nm}^2 \text{ kg}^{-1}$ (b) $6.673 \times 10^{-11} \text{ Nm}^2 \text{ kg}^{-1}$ (c) $6.743 \times 10^{-11} \text{ Nm}^{-2} \text{ kg}^{-1}$
 (d) $6.673 \times 10^{-1} \text{ Nm}^{-2} \text{ kg}^{-1}$
- 11) Which options show the correct direction of current?



12) Mitochondria contain _____ of protein.

- (a) 70 - 80 % (b) 80 - 90 % (c) 60- 70 % (d) 50 - 60 %

ANSWER ANY **SEVEN** OF THE FOLLOWING (**QUESTION NO. 22 IS COMPOULSORY**)

7 x 2 = 14

13) Why does the sky appear in blue colour?

14) Define the unit of current.

15) State Soddy and Fajan's displacement law.

16) What is aqueous and non-aqueous solution? Give an example.

17) What are the contributing factors for obesity?

18) DNA finger printing technique is used to identify a person. Justify.

19) Draw the ultrastructure of mitochondria and label the parts.

20) List uses of biogas.

21) Write the differences between mutation and variation.

22) What will be the frequency sound having 0.20 m as its wavelength, when it travels with a speed of 331 m s⁻¹?

ANSWER ANY **SEVEN** OF THE FOLLOWING (**QUESTION NO.32 IS COMPOULSORY**)

7 x 4 = 28

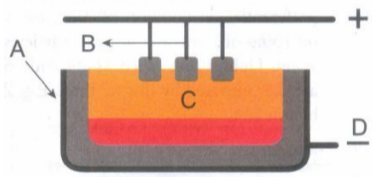
23) Write the difference between the sound and light waves.

24) Distinguish between Nuclear fission and nuclear fusion.

25) Distinguish between

- somatic gene therapy and germ line gene therapy
- undifferentiated cells and differentiated cells.

26) Redraw and label the diagram. Then answer the following questions.



(a) What process does the diagram represent?

(b) Why does the graphite rod need to be replaced often?

(c) Give reason for the melting point of the electrolyte.

(d) Write the overall equation of this process.

27) a) Bring out any two physiological activities of abscisic acid.

b) What are the hormones secreted by posterior lobe of the pituitary gland? Mention the tissues on which they exert their effect.

28) Differentiate between Type-1 and Type-2 diabetes mellitus

29) a) Identify the bond between H and F in HF molecule.

b) What property forms the basis of identification?

c) How does the property vary in periods and in groups?

30) a) Why did Mendel select pea plant for his experiments?

b) What are allosomes?

31) a) Who discovered Rh factor? Why was it named so?

b) Define Avogadro's Hypothesis

32) a) Calculate the number of moles in 2 g of sodium Hydroxide?

b) ~~<div>~~ Calculate the number of molecules in 11 gm of CO₂? ~~</div>~~

ANSWER IN DETAIL

3x 7 = 21

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

(OR)

b) Explain about domestic electric circuits. (circuit diagram not required)

34) a) a. Give the salient features of "Modern atomic theory". b. Define: Atomicity

(OR)

b) What is called homologous series? Give any three of its characteristics?

35) a) Illustrate the structure and functions of brain.

(OR)

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

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