**Trường THCS Tiên Cường**

**Đề thi môn Khoa học Tự nhiên**

Người ra đề:

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1. **Objective test**

**Please write the answer**

**Question 1**. A conductor of length ℓ and resistor R. If you connect 4 wires on the new wire is the resistance is ...........

***Answers:*** ……………………………………………………………………………………….

**Question 2**. Is a component to adjust .................................... ....... in the circuit.

***Answers:*** ……………………………………………………………………………………….

**Question 3**. On a resistor 50 Ω - 2,5A. Write the maximum voltage can be placed on the two ends of the fixed rope of the variable resistance is ................ ........

***Answers:*** ……………………………………………………………………………………….

**Question 4.** When placing a wire with a 6V voltage, the current through it is 0,5A. If the voltage set at the two ends is 24V, the current through it is. ...............

***Answers:*** ……………………………………………………………………………………….

**Question 5.** A circuit consisting of two resistors R1 and R2 in parallel. When applied to a voltage U, the current through the main circuit is I = 1,2 A and the current through R2 is I2 = 0,5A. The current through R1 is .................

***Answers:*** ……………………………………………………………………………………….

**Question 6.** In formula P = I².R if double the resistance R and reduce the current intensity 4 times, the power ..................... ............

***Answers:*** ……………………………………………………………………………………….

**Question 7**. A kind of bulb 220 V - 100 W used at voltages 220V. The power consumption of the lamp in 1h is ........................

***Answers:*** ……………………………………………………………………………………….

**Question 8**: Electric motors are transformer devices ....................................... .......................

***Answers:*** ……………………………………………………………………………………….

**Question 9.** Two resistorsR1 = 10 Ω, R2 = 20 Ω, R1 can withstand maximum current of 1,5A and R2 can withstand maximum current of 2,0A. On two points with the maximum value of ......................

***Answers:*** ……………………………………………………………………………………….

**Question 10**: The Left Hand Rule is used to determine

Place the left hand so that the lines from the direction of the palm, the direction from the wrist to the middle finger direction in the direction of electricity .................... ................ only electromagnetic force.

***Answers:*** ……………………………………………………………………………………….

**Question 11**: Colorless solution of phenolphthalein solution of pink color of type ....................................

***Answers:*** ……………………………………………………………………………………….

**Question 12**: What is the difference between NaOH solution and Ca (OH) 2 solution?

***Answers:*** ……………………………………………………………………………………….

**Question 13**: Salt with sodium hydroxide solution makes blue solid .............

***Answers:*** ……………………………………………………………………………………….

**Question 14**: For powder mixture of 3 metals iron, silver, copper in HCl solution, see bubble gas escape. The reaction is complete, the mass of the metal is not reduced ..........

***Answers:*** ……………………………………………………………………………………….

**Question 15**: There are gases: H2, O2, CO2, SO2, Cl2. These gases coexist in a container where high temperature without chemical reaction is. .........................

***Answers:*** ……………………………………………………………………………………….

**Question 16**: An oxide formed by two elements is iron and oxygen, in which the mass ratio between iron and oxygen is 7/3. The chemical formula of iron oxide is ...................

***Answers:*** ……………………………………………………………………………………….

**Question 17**: Dissolve 2.4 g of a divalent metal oxide need 30g of dd HCl 7.3%. The formula of the metal oxide is ........................... ..

***Answers:*** ……………………………………………………………………………………….

**Question 18**: Add 2.24 liters of CO2 to the excess Ba(OH)2 solution. The volume of the precipitate obtained is .............

***Answers:*** ……………………………………………………………………………………….

**Question 19**: For the following substances: Zn. ZnO, CO2, NaOH, Cu, CuSO4. Substances that do not work with dilute H2SO4 solution are .....................................

***Answers:*** ……………………………………………………………………………………….

**Question 20**: Add 300ml of 1M HCl to 300 ml of 0.5M NaOH. If you knead purple liquid after reaction, then kneel purple to .....................

***Answers:*** ……………………………………………………………………………………….

**Question 21**: DNA is composed of the principle of multi-segmented, single-formed DNA is Nucleotide composed of 4 types ..................................

***Answers:*** ……………………………………………………………………………………….

**Question 22**: A fruit fly (2n = 8) is in the second half of the second cut. The number of chromosomes in that cell is ........................... ..

***Answers:*** ……………………………………………………………………………………….

**Question 23**: Genetic researcher is considered the first to lay the foundation for genetics .................................

***Answers:*** ……………………………………………………………………………………….

**Question 24**: The combination of a male gamete with a female gamete (or between a sperm and an oocyte) forms a zygot called ..................................

***Answers:*** ……………………………………………………………………………………….

**Question 25**: The female gender chromosome consists of two homologous chromosomes called .........................

***Answers:*** ……………………………………………………………………………………….

Question 26: The difference between RNA and DNA is that RNA is structured. circuit.

***Answers:*** ……………………………………………………………………………………….

**Question 27**: A cell that conducts a constant sequence of 5 times produces a total number of daughter cells.

***Answers:*** ……………………………………………………………………………………….

**Question 28**: A gene with Nucleotide sequence on the circuit is A-T - G - G - X - T - A - A - T - X -. The sequence of Nucleotides on mRNA synthesized from the template is ...................................................

***Answers:*** ……………………………………………………………………………………….

**Question 29**: Types of mutations 3n, 4n, 5n, 6n, .... Called the mutants ...............

***Answers:*** ……………………………………………………………………………………….

**Question 30**: Expressions such as baby, dwarf, neck flabby, cheeks, mouth slightly, tongue slightly, eyes slightly deep and one eyelid is the patient's disease ...........................

***Answers:*** ……………………………………………………………………………………….

1. **Essay**

**Question 31:** A circuit of three resistors R1 = 3; R2 = 5; R3 = 7 are connected in series. The voltage between two ends of the circuit is U = 6V.

a) Calculate the equivalent resistance of the circuit ?

b) Voltage between the two ends of each resistor ?

**Question 32**: For 2.4 grams of M metal to work with dilute H2SO4 solution, 0.1 mol of H2 gas in TOR is obtained.

a. Determination of metal M.

b. From M, write the direct equations for each MCl2, M (NO3)2 modifier.

**Question 33**:

A gene with a total of Nucleotides is 3000. Genes have an A / G ratio of 2/3.

a. Determine the number of Nucleotides in each genus

b. Calculate the length of the gene and the mass of the gene. 1 Nucleotide has a mass of 300 dc.

**Key:**

**Question 1**: 4R

**Question 2**: used to adjust the intensity of current in the circuit.

**Question 3**: U = 125 V.

**Question 4**: I = 2,0 A

**Question 5**: I1 = 0,7 A

**Question 6**: 8 times reduction.

**Question 7**: 0,1 kWh

**Question 8**: electrical Power to function

**Question 9**: 15V

**Question 10**: thumb up 90o

Sentence 11: base

Question 12: CO2

Question 13: CuSO4 / CuCl2 / Cu (NO3)2

Question 14: silver, bronze

Question 15: CO2, SO2, Cl2

Sentence 16: Fe2O3

Question 17: CuO

Question 18: 19.7 g

Question 19: Cu, CuSO4, CO2

Question 20: red

Question 21: A, T, G, X

Question 22: 8

Sentence 23: Menadine

Question 24: fertilization

Question 25: XX

Question 26: one

Question 27: 32

Question 28: U - A - X - X - G - A - U - U - A - G -

Question 29: Multiply

Question 30: Down

Question 31: Task

a) The equivalent resistance of the circuit is: RTd = R1 + R2 + R3 = 3 + 5 + 7 = 15

b) The current in the main circuit and the resistances are:

      I = I1 = I2 = I3 = =  = 0,4A

The voltage across the resistors is: U1 = I1.R1 = 0.4. 3 = 1.2V

                                                          U2 = I2.R2 = 0.4. 5 = 2.0V

                                                          U3 = I3.R3 = 0.4. 7 = 2.8V

Question 32:

a. 2M + nH2SO4 🡪 M2 (SO4)n + nH2

mol 0.2 / n 0.1

We have: M = 2.4 (0.2 / n) = 12n

|  |  |  |  |
| --- | --- | --- | --- |
| n | 1 | 2 | 3 |
| M | 12 | 24 | 36 |

Conclusion Type Mg Type

b. Mg + Cl2 t0 MgCl2

     Mg + Cu (NO­3)2 🡪 Mg (NO3)2 + Cu

**Question 33**:

a. We have:

2. (A + G) = 3000

= A + G = 1500

Which A / G = 2/3

 A = 600 = T; G = 900 = X

b. The length of the gene is:

L = N / 2 x 3.4 = 1500 x 3.4 = 5100 Ao

The mass of the gene is:

M = N. 300 = 300. 300 = 900,000

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