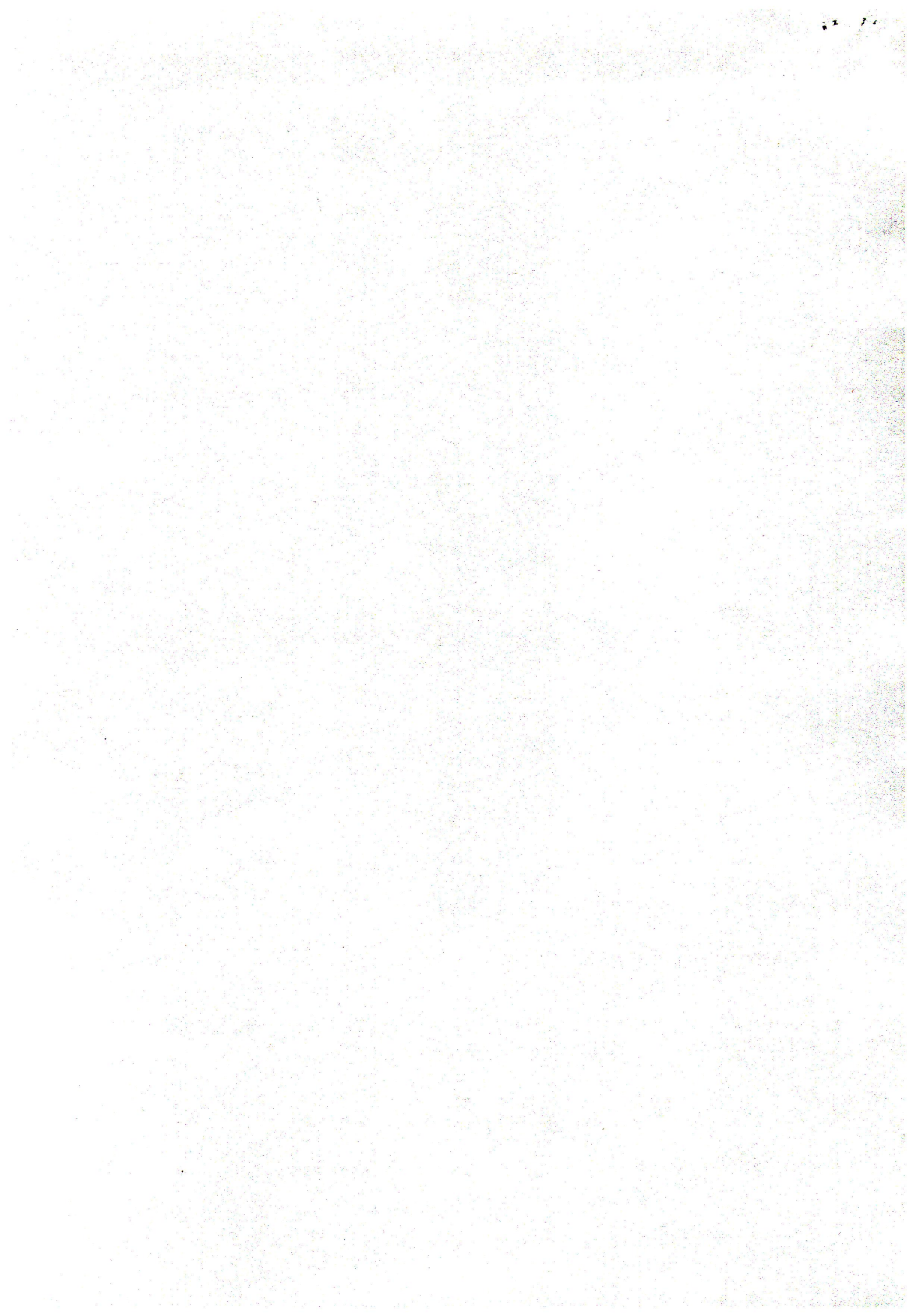
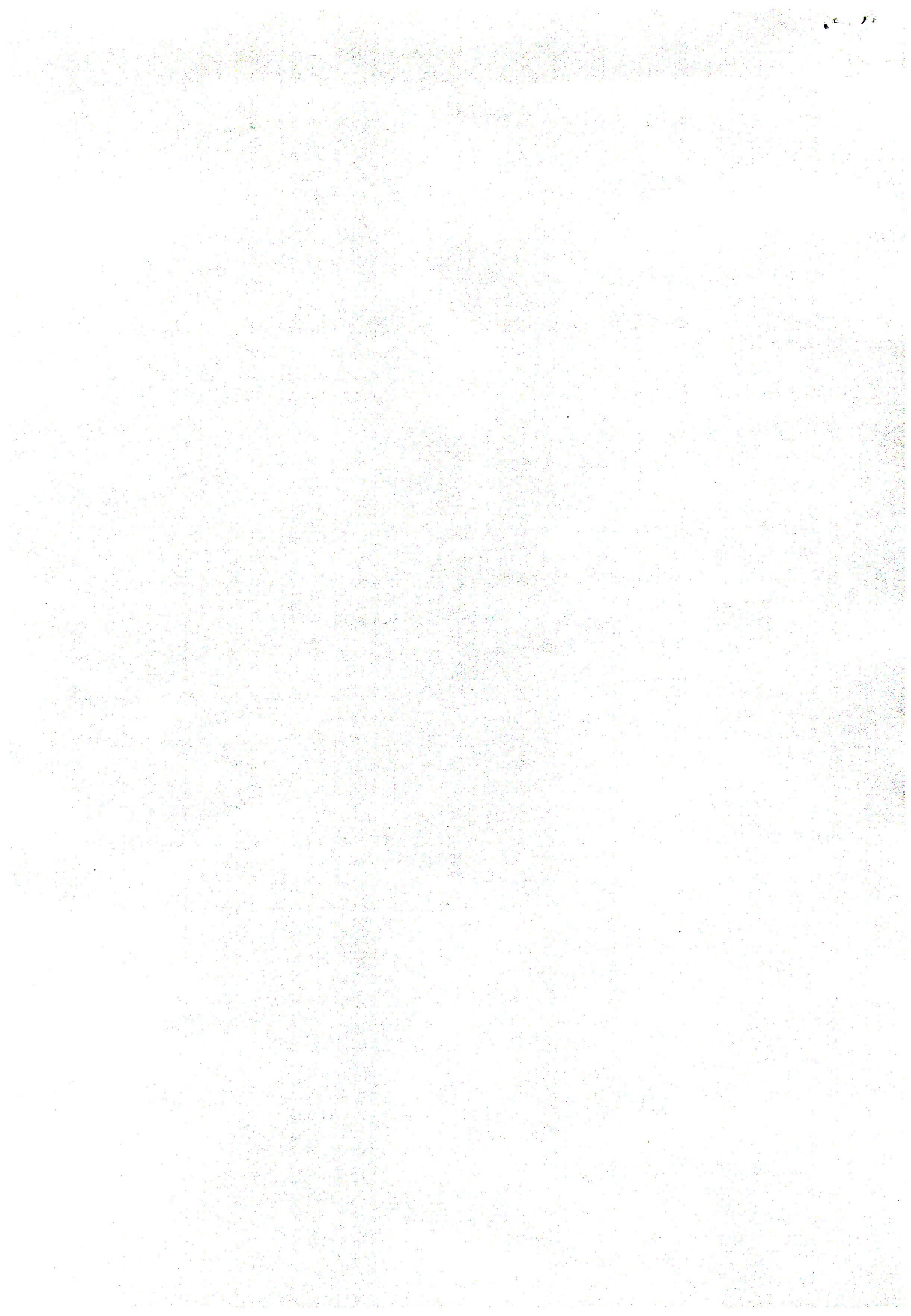


- Question 12.** The Archimedes' thrust does not depend on  
 A. the specific mass of the liquid in the container.  
 B. the size of the immersed object.  
 C. the mass of the immersed object.  
 D. the specific weight of the fluid in the container.
- Question 13.** An electric bulb is rated 220 V and 100 W. When it is operated on 110 V, the power consumed will be  
 A. 50 W.                      B. 75 W.                      C. 100 W.                      D. 25 W.
- Question 14.** A stone weighing 600 g is located in a water tank. The specific gravity of the stone and water is  $24000 \text{ N/m}^3$  and  $10^4 \text{ N/m}^3$ . The specific gravity of the stone is  $24000 \text{ N/m}^3$ . Archimedes' thrust effect of water on the stone is  
 A. 25 N.                      B. 240 N.                      C. 2,5 N.                      D. 60,5 N.
- Question 15.** What is the angle of incidence of a ray if the reflected ray is at an angle of  $90^\circ$  to the incident ray?  
 A.  $60^\circ$ .                      B.  $90^\circ$ .                      C.  $45^\circ$ .                      D.  $180^\circ$ .
- Question 16.** The heat dissipated on a resistor  $60 \Omega$  in 2 minutes, when it's connected to a 24 V power source is  
 A. 120 J.                      B. 60 J.                      C. 1152 J.                      D. 576 J.
- Question 17.** Binh is standing 1,8 m from the mirror to look in the mirror. Due to his unclear vision, Binh approached the mirror a distance of 0,5 m. Calculate the distance from Binh to Binh's picture at that time.  
 A. 1,1 m.                      B. 0,5 m.                      C. 2,2 m.                      D. 2,6 m.
- Question 18.** Why is it that when heating a copper-steel dual band, the double tape is bent?  
 A. Because of the increased gravity acting on the double band, the double band deforms.  
 B. Since the copper rod is lengthened while the steel rod is shortened, the double tape is bent.  
 C. Since the copper rod is elongated while the steel rod is not, the double tape is bent.  
 D. Since both copper and steel rods lengthen, their length increases differently.
- Question 19.** The equivalent resistance of 50 resistors connected in series is  $100 \Omega$ . Each resistor has a value of  
 A.  $4 \Omega$ .                      B.  $1 \Omega$ .                      C.  $2 \Omega$ .                      D.  $0,5 \Omega$ .
- Question 20.** When a reflected ray is perpendicular to a plane mirror surface, the incident angle of the light ray to the mirror is  
 A.  $45^\circ$ .                      B.  $90^\circ$ .                      C.  $0^\circ$ .                      D.  $60^\circ$ .
- Question 21.** Which of the following compounds:  $\text{SO}_2$ , Fe,  $\text{BaSO}_4$ , CuS, NaOH, BaO, Cu can react with HCl?  
 A. CuS,  $\text{SO}_2$ ,  $\text{BaSO}_4$ , Cu.                      B.  $\text{SO}_2$ ,  $\text{BaSO}_4$ , Cu.  
 C. NaOH, BaO, Fe.                      D. CuS, NaOH, BaO, Fe.
- Question 22.** If 6.50 g of  $\text{Fe}_2\text{O}_3$  yields 3.85 g of Fe what is the percentage yield of the reaction?  
 A. 59.2%                      B. 76.3%                      C. 69.9%                      D. 84.7%
- Question 23.** A 1.871 gram sample of an unknown metallic carbonate is decomposed by heating to form the metallic oxide and 0.656 g of carbon dioxide according to the equation. What is the metal?  
 A. Zn                      B. Ni                      C. Ca                      D. Mn
- Question 24.** A 10.00 g sample of a soluble barium salt is treated with an excess of sodium sulfate to precipitate 11.21 g  $\text{BaSO}_4$  ( $M = 233.4$ ). Which barium salt is it?  
 A.  $\text{BaBr}_2$  ( $M = 297.1$ )                      B.  $\text{Ba}(\text{NO}_3)_2$  ( $M = 261.3$ )  
 C.  $\text{Ba}(\text{O}_2\text{CH})_2$  ( $M = 227.3$ )                      D.  $\text{BaCl}_2$  ( $M = 208.2$ )
- Question 25.** What is the mass percent of oxygen in  $\text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$ ?  
 A. 43.2                      B. 28.8                      C. 9.60                      D. 72.0
- Question 26.** Which solid reacts with dilute hydrochloric acid at  $25^\circ\text{C}$  to produce a gas that is more dense than air?  
 A.  $\text{NaHCO}_3$                       B. Zn                      C.  $\text{Pb}(\text{NO}_3)_2$                       D. NaBr



- Question 27.** 20 grams of a mixture of Mg and Fe are reacted with an excess amount of HCl solution to liberate 1 grams of H<sub>2</sub> gas. What is the mass of the chloride salt created in the solution?  
 A. 37.75 grams      B. 91 grams      C. 38.25 grams      D. 55.5 grams
- Question 28.** Magnesium oxide reacts with phosphoric acid, H<sub>3</sub>PO<sub>4</sub>, to produce magnesium phosphate and water. How many grams of magnesium oxide are required to react completely with 33,5 grams of phosphoric acid?  
 A. 20,51 grams      B. 13,67 grams      C. 41,02 grams      D. 6,84 grams
- Question 29.** What is the concentration of nitrate ion in a 425 mL solution containing 32.0 g of Mg(NO<sub>3</sub>)<sub>2</sub> (*M* = 148.3)?  
 A. 0.508 M      B. 1.02 M      C. 0.216 M      D. 0.432 M
- Question 30.** If NO and NO<sub>2</sub> are formed in a 2:3 ratio, what is the coefficient for Cu when the equation is balanced with the simplest whole numbers?  
 A. 3      B. 6      C. 9      D. 2
- Question 31.** 11,2 liters (measured at standard conditions) of CO<sub>2</sub> completely absorbed into lime solution. Mass of precipitate at the end of the reaction is:  
 A. 37 grams.      B. 100 grams.      C. 74 grams.      D. 50 grams.
- Question 32.** What mass of NaHCO<sub>3</sub> (*M* = 84.0) is required to completely neutralize 25.0 mL of 0.125 M H<sub>2</sub>SO<sub>4</sub>?  
 A. 0.525 g      B. 0.131 g      C. 0.262 g      D. 1.05 g
- Question 33.** Predict the product of each reaction.  
 (1) K<sub>2</sub>CO<sub>3</sub> + AlCl<sub>3</sub> + H<sub>2</sub>O → Al(OH)<sub>3</sub> + ? + KCl      (2) Fe + Cl<sub>2</sub> → ?  
 (3) Fe<sub>3</sub>O<sub>4</sub> + CO → ? + CO<sub>2</sub>      (4) S + O<sub>2</sub> → ?  
 A. KHCO<sub>3</sub>, FeCl<sub>3</sub>, FeO, SO<sub>2</sub>      B. KHCO<sub>3</sub>, FeCl<sub>2</sub>, FeO, SO<sub>2</sub>  
 C. CO<sub>2</sub>, Fe<sub>2</sub>O<sub>3</sub>, FeO, SO<sub>3</sub>      D. CO<sub>2</sub>, FeCl<sub>3</sub>, FeO, SO<sub>2</sub>
- Question 34.** A mixture is prepared by adding 50.0 mL of 0.200 M NaOH to 75.0 mL of 0.100 M NaOH. What is the NaOH in the mixture?  
 A. 0.0600 M      B. 0.140 M      C. 0.0800 M      D. 0.233 M
- Question 35.** Which sequence of metal is arranged with decreasing chemical activity?  
 A. Pb, Al, Mg.      B. Na, Mg, Zn.      C. Al, Zn, Na.      D. Mg, Al, Na.
- Question 36.** Solutions of which ion produce a red color when vaporized in a Bunsen burner flame?  
 A. sodium      B. zinc      C. potassium      D. calcium
- Question 37.** The following chemicals are given: CuO, Zn, CuCO<sub>3</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe(OH)<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>. Choose from the list a substance that reacts with H<sub>2</sub>SO<sub>4</sub> solution to form a colorless solution:  
 A. CuO, CuCO<sub>3</sub>      B. Zn, Al<sub>2</sub>O<sub>3</sub>      C. CuO, Fe<sub>2</sub>O<sub>3</sub>      D. Fe(OH)<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>
- Question 38.** Magnesium oxide reacts with phosphoric acid, H<sub>3</sub>PO<sub>4</sub>, to produce magnesium phosphate and water. How many grams of magnesium oxide are required to react completely with 33,5 grams of phosphoric acid?  
 A. 6,84 grams      B. 41,02 grams      C. 20,51 grams      D. 13,67 grams
- Question 39.** 11,2 grams metal reacts completely with 0,2 liters of H<sub>2</sub>SO<sub>4</sub> 1M solution. The metal is:  
 A. Mg.      B. Al.      C. Cu.      D. Fe.
- Question 40.** Which solution produces a black precipitate when added to an aqueous CuSO<sub>4</sub> solution?  
 A. AgNO<sub>3</sub>      B. Na<sub>2</sub>S      C. Na<sub>2</sub>SO<sub>4</sub>      D. KOH
- Question 41.** The normal diastolic blood pressure in a normal healthy adult human is  
 A. 80 mm Hg.      B. 60 mm Hg.      C. 90 mm Hg.      D. 110 mm Hg.
- Question 42.** Which of the following animals has a single circulatory system?  
 A. Frog.      B. Fish.      C. Crocodile.      D. Bird.
- Question 43.** If a molecule of carbon dioxide released into the blood in your left foot travels out of your nose, it must pass through all of the following structures except the \_\_\_\_\_.  
 A. right atrium.      B. pulmonary vein.      C. bronchus.      D. pulmonary artery.
- Question 44.** In which part of the respiratory system, gaseous exchange takes place?  
 A. Alveoli.      B. Pharynx.      C. Larynx.      D. Trachea.
- Question 45.** The tiny air sacs present in human lungs is called \_\_\_\_\_.



- A. cilia.                      B. bronchus.                      C. bronchioles.                      D. alveoli.

**Question 46.** Which of these statements is true about internal respiration?

- A. Production of ATP.  
B. Exchange of gases between the bloodstream and tissue cells.  
C. Exchange of gases between alveoli and the bloodstream.  
D. Breathing between the atmosphere and the alveoli.

**Question 47.** The small intestine has three parts. The first part is called

- A. duodenum.                      B. oesophagus.                      C. larynx.                      D. none of the above.

**Question 48.** One of the reasons why some people cough after eating a meal may be due to the improper movement of \_\_\_\_\_

- A. larynx.                      B. diaphragm.                      C. neck.                      D. epiglottis.

**Question 49.** Long-term Iodine deficiency in human daily diets leads to which of the following consequences?

- A. The pituitary gland has a disfunction that causes Basedow disease.  
B. The pituitary gland reduces secrete GH hormone.  
C. The pituitary gland secretes the horrnone to promote the thyroid gland to operate.  
D. The pituitary gland reduces secrete TSH hormon to promote the thyroid gland to operate.

**Question 50.** A serious disease in which the body is unable to regulate blood sugar is

- A. diabet                      B. blood cancer                      C. albinism                      D. hemophilia

**Question 51.** A mutagen causes \_\_\_\_\_.

- A. problems with mitosis.  
B. a change in the base sequence of DNA.  
C. decreased enzyme activity throughout the cell  
D. a reduction in the number of tRNA molecules available for protein synthesis

**Question 52.** Which of the following diseases is caused by a chromosome mutation?

- A. Blood cotting disease (Haemophilia).                      B. Albino.  
C. Malignant blood cancer.                      D. Color blindness.

**Question 53.** In his breeding experiments, Mendel first crossed true-breeding \_\_\_\_\_ generation plants to produce the \_\_\_\_\_ generation, which were then allowed to self-pollinate to generate the \_\_\_\_\_ offspring.

- A. P ... F<sub>1</sub> ... F<sub>2</sub>.                      B. F ... P<sub>1</sub> ... P<sub>2</sub>.                      C. P<sub>1</sub> ... P<sub>2</sub> ... F.                      D. P<sub>1</sub> ... P<sub>2</sub> ... P<sub>3</sub>

**Question 54.** *GgTt* pea plants can produce \_\_\_\_\_ type(s) of gametes, but a *ggtt* plant can produce \_\_\_\_\_ type(s) of gametes.

- A. one ... two.                      B. four ... two.                      C. four ... one.                      D. two... one

**Question 55.** How many features are true for the prophase of the mitosis among the following ones?

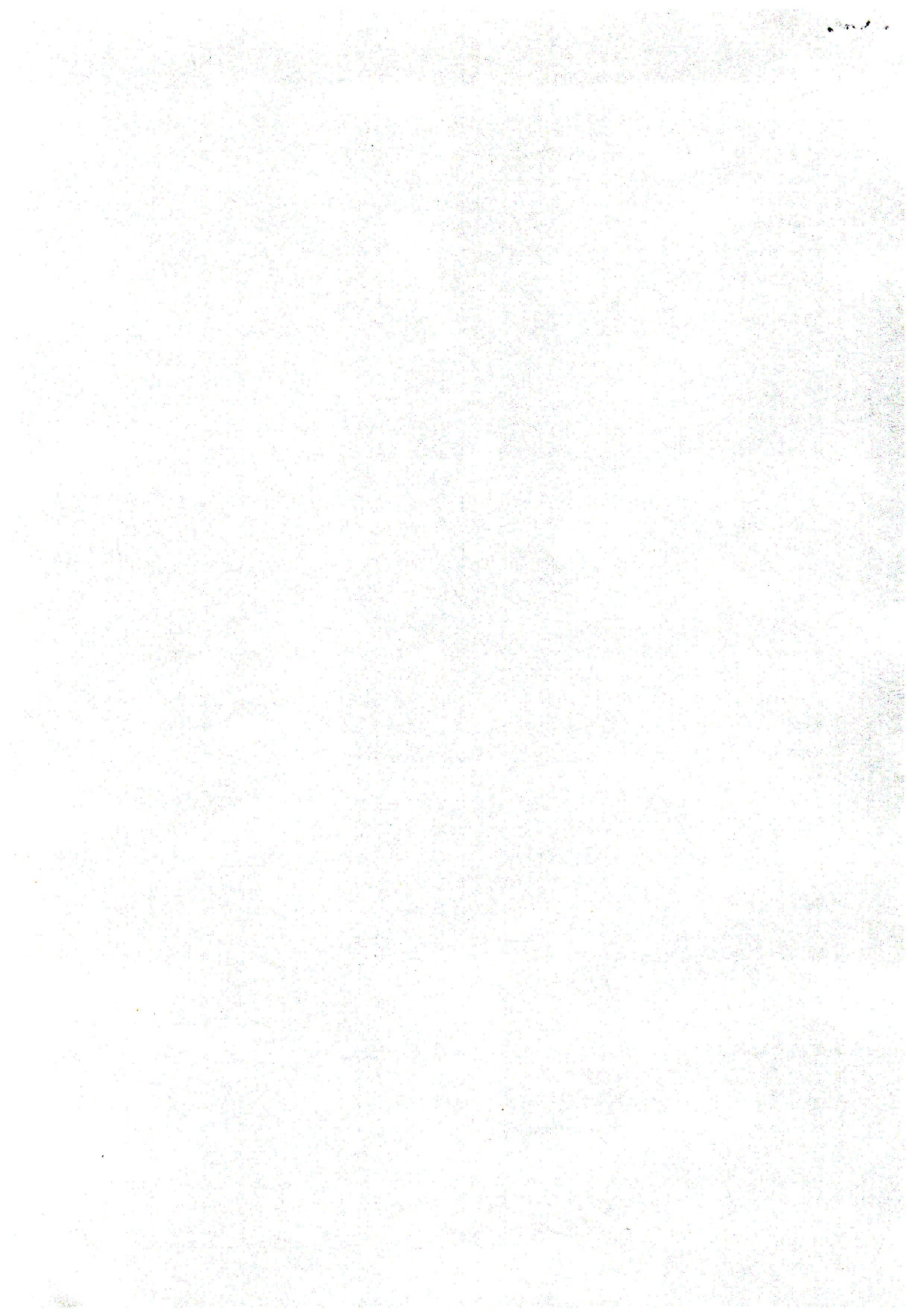
- (I)-Single chromosomes self-duplicate into double ones.  
(II)- The shuttle cytokinesis is formed to connect two poles of the cell.  
(III)-The nuclear membrance and the small nucleus disappear.  
(IV)- Double chromosomes begin to close twist and shrink.  
(V)- Doubles chromosomes maximumly shrink and gather in one row in the equatorial plane

- A. 2.                      B. 3.                      C. 4.                      D. 5.

**Question 56.** In theory, how many gametes are maximumly created from the 5 oocytes with the genotype AaBbDdEe after finishing the meiosis?

- A. 16.                      B. 10.                      C. 32.                      D. 5.

**Question 57.** A germinal cell has 10 chromosomes when it enters the gamete formation phase. What will be the number of chromosomes and chromatids in it Metaphase-II of meiosis?



A. 20 & 20.                      B. 10 & 20.                      C. 10 & 10.                      D. 5 & 10.

**Question 58.** Characters are transmitted from parents to offspring. \_\_\_\_\_ are the units of inheritance.

A. Genes.                      B. Proteins.                      C. RNA.                      D. DNA.

**Question 59.** As letters are to English language, \_\_\_\_\_ is/are to genetic information.

A. proteins.                      B. nucleotides.                      C. DNA double helix.                      D. A and B

**Question 60.** The process by which the information in a gene directs the synthesis of a protein is called \_\_\_\_\_.

A. gene expression.                      B. replication.

C. post translation modification.                      D. cloning.

-----**THE END**-----

