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| VINH BAO DISTRICT People's Committee**GIANG BIEN SECONDARY SCHOOL** | **EXAM FOR EXCELLENT STUDENTS SCHOOL YEAR 2023-2024****NATURAL SCIENCE IN ENGLISH 8***120 minutes of work time* |

**Choose the letter in front of the correct answer**

**Question 1**. Which of the following statements does not correctly describe the atomic model of Rho-de-pho-Boron?

A. Atoms have a hollow structure, including the nucleus in the center of the atom and electrons in the atomic shell

B. Atoms have a compact structure, including an atomic nucleus and electrons.

C. Electrons move around the nucleus in specific orbits, forming electron layers

D. The atomic nucleus has a positive charge, the electron has a negative charge

**Question 2**. Know that sodium (Na) has valence I and oxygen has valence II. The chemical formula of the compound formed by Na and O is

A. NaO. B. Na2O. C. NaO2. D. Na2O2.

**Question 3**. The valence of copper (Cu) and iron (Fe) in the compounds Cu(OH)2 and Fe(NO3)3 are respectively (knowing that OH group and NO3 group both have valence I)

A. I and III. B. III and II. C. II and II. D. II and III.

**Question 4**. The reaction between hydrogen and oxygen to form water is described as follows:

Hydrogen + Oxygen → Water

The reactant is

A. Hydrogen, water. B. Hydrogen, oxygen.

C. Oxygen, water. D. Water.

**Question 5**. Which of the following is an endothermic process?

A. Burning alcohol.

B. Dissolving urea nitrogen fertilizer into water makes the water cold.

C. Burn the piece of paper.

D. Concentrated sulfuric acid when added to water makes the water hot.

**Question 6**. For reactions involving gases, which of the following statements is correct?

A. When pressure increases, the reaction rate decreases.

B. When pressure increases, the reaction rate increases.

C. When the pressure decreases, the reaction rate increases.

D. Pressure does not affect reaction rate.

**Question 7**. In what form can a substance be poured and flow over the surface?

A. Plastic body. B. Solid card. C. Gaseous form. D. Liquid.

**Question 8**. Remove residue in water heaters by using

A.salt B.vinegar or lemon

C.sulfuric acid D.permanganate

**Question 9.** The reagent used to differentiate between sodium hydroxide and calcium hydroxide solutions is

A. hydrochloric acid solution B. barium chloride solution

C.sodium chloride solution D.sodium carbonate solution

**Question 10**. Give the following substances: copper(II) hydroxide, sodium hydroxide, barium hydroxide, potassium hydroxide. Substances that are decomposed by heat to form oxides are

A.barium hydroxide B.copper(II) hydroxide

C.potassium hydroxide D.sodium hydroxide

**Question 11**. Oxide series reacts with hydrochloric acid solution

A.CuO; Fe2O3; CO2; FeO B.Fe2O3; CuO; MnO; Al2O3

C.CaO; CO; N2O5; ZnO D.SO2; MgO; CO2; Ag2O

**Question 12**. How many ml of H2 gas can be obtained when 3.6 grams of magnesium react with dilute hydrochloric acid solution at STP?

A.22.4 liters B.3.6 liters C.3.36 liters D. 0.336 liters

**Question 13**. Let 8.45g of Zinx react with 5.376 liters of Chlorine gas (standard conditions). Ask which substance is left over after the reaction

A.Zinx B.Chlorine C.Both D.No residue

**Question 14.** The solubility of NaCl in water at 90∘C is 50 grams. The % concentration of NaCl solution dissolved at 90∘C is

A.30.33% B.33.33% C.34.23% D.35.42%

**Question 15**. Dissolve 40g of sugar with water to get a 20% sugar solution. Calculate the mass of sugar solution obtained

A.150 grams B.170 grams C.200 grams D.250 grams

**Question 16**. Dissolve 7.18 grams of NaCl in 20 grams of water at 200C to get a saturated solution. The solubility of NaCl at 200C is

A. 35 grams B. 35.5 grams C. 35.9 grams D. 39.5 grams

**Question 17**. Give the following reaction equation: 4FeS2 + 11O2 → X + 8 SO2 X is

A.4Fe B.4FeO C. 2Fe2O3 D.Fe3O4

**Question 18**. Fill in the substance you are looking for and the appropriate coefficient

 FeO + CO → X + CO2

A.Fe2O3& 1:2:3:1 B.Fe & 1:1:1:1

C.Fe3O4& 1:2:1:1 D.FeC & 1:1:1:1

**Question 19**. When simmering (stewing) meat and fish, people use the following methods.

1) Use a pressure cooker 3) Chop the fish meat into small pieces.

(2) Add salt. (4) Cook with cold water.

The way to make fish meat cook faster is

A.1, 2, 3. B.1, 3, 4. C.2, 3, 4. D.1, 2, 4.

**Question 20**. Which of the following oxides contributes the most to the formation of acid rain?

A.CO2 (carbon dioxide) B.CO (carbon oxide)

C.SO2(sulfur dioxide) D.SnO2 (tin dioxide)

**Question 21**. A nearsighted person, the farthest point that person can see clearly is 0.5m. How should a person choose glasses to overcome nearsightedness?

A. Converging lens with focal length f = 1m

B. Diverging lens with focal length f = 1m

C. Diverging lens with focal length f = 0.5m

D. Converging lens with focal length f = 0.5m

**Question 22**. The multiplicity of a magnifying glass is 5. Which of the following values can the focal length of the glass take?

A. 5m B. 5cm C. 5mm D. 5dm

**Question 23.** Choose the incorrect answer about the Earth's magnetic field.

A. The Earth is a giant magnet.

B. Outside the Earth, the Earth's magnetic field lines go from the Southern Hemisphere to the Northern Hemisphere.

C. The geographical North pole and the geomagnetic North pole do not coincide.

D. The geographic South Pole coincides with the geomagnetic South Pole.

**Question 24**. Two trains move on parallel tracks, in the same direction, with the same speed. A person sitting on the first train will:

A. Stand still relative to the second train.

B. Stand still relative to the road surface.

C. Movement relative to the second train.

D. Reverse movement.

**Question 25.** A car moves uniformly on the road from location M to location N with an estimated time t. If the car's speed is increased by 1.5 times, the time t

A. decreased by 2/3 times B. increased by 4/3 times

C. decrease 3/4 times D. increase 3/2 times

**Question 26**. A car carrying passengers moves uniformly on a road of 54 km, at a speed of 36 km/h. The time it takes the car to cover that distance is:

A. 2/3 hours B. 1.5 hours C. 75 minutes D. 120 minutes

**Question 27**. The road from Nam's house to the park is 7.2 km long. If he walks at a constant speed of 1 m/s, the time it takes Nam to go from home to the park is

A. 0.5 h B. 1 h C. 1.5 h D. 2 h

**Question 28**. A fixed pulley changes the direction of motion of the rope by 900 degrees when pulling the object up as shown.

A. The pulling force has done work because there is a force that causes the object to move.

B. The pulling force does not do work because the direction of the force is perpendicular to the direction of movement of the object.

C. The pulling force does no work because the pulling force acting on the object must go through the pulley.

D. The pulling force does not do work because without force, the object can still move by inertia.

**Question 29**. A group of students pushes a cart carrying dirt from A to B on a horizontal road. When they get to B, they dump all the dirt and then push the cart along the same path back to A. Compare the work generated in the first and second turns.

A. The work done in the first leg is equal to the work done in the return leg because the distance traveled is the same.

B. The work in the first leg is greater because the force pushing the first leg is greater than the return leg.

C. The work on the return leg is greater because the empty car goes faster.

D. Work on the first turn is smaller because pulling the cart is heavy so it goes slowly.

**Question 30**. A locomotive pulls the carriages with a force of F = 7500 N. What is the work of the traction force when the carriages move a distance of s = 8km.

A. A = 60000 kJ B. A = 6000 kJ C. Another result D. A = 600 kJ

**Question 31**. People use a crane to lift a cargo box with a mass of 2500 kg to a height of 12 m. Calculate the work done in this case.

A. 300 kJ B. 250 kJ C. 2.08 kJ D. 300 J

**Question 32**. An object with a mass of 3600 g has a density of 1.8 g/cm3. When dropped into a liquid with a specific gravity of 8500 N/m3, it is completely below the surface of the liquid. The force that pushes Ac-si-meter on the object is equal in magnitude

A. 17 N. B. 8.5 N. C. 4 N. D. 1.7 N.

**Question 33**. Heat conduction can only occur between two solid objects when

A. two objects have different thermal energy.

B. two objects with different temperatures are in contact.

C. two objects have different temperatures.

D. two objects with different thermal energy are in contact.

**Question 34**. When a solid object is cooled,

A. the mass of the object decreases. B. the volume of the object decreases.

C. the weight of the object decreases. D. the weight of the object increases

**Question 35**. An object has a thermal energy of 200J, after heating its thermal energy is 400J. How much heat does the object receive?

A. 600 J B. 200 J C. 100 J D. 400 J

**Question 36**. Why does the water in the aluminum kettle boil more quickly when boiling water with an aluminum kettle and an earthen kettle on the same stove?

A. Because aluminum is thinner.

B. Because aluminum has better thermal conductivity.

C. Because aluminum has a smaller mass.

D. Because aluminum has a lower density.

**Question 37**. Which of the following objects does not have electric current flowing through it?

A. A fan is running. B. A working iron.

C. Rice cooker while cooking rice. D. A small battery is placed on the table.

**Question 38**. When does electric current have physiological effects?

A. When near human and animal bodies.

B. When passing through human and animal bodies.

C. When there is great intensity.

D. When the intensity is small.

**Question 39**. When a voltage of 12V is applied to both ends of a wire, the current flowing through it is 6 mA. If the current flowing through that wire is to be reduced by 4 mA, the voltage is:

A. 4V B. 2V C. 8V D. 4000 V

**Question 40**. Use an ammeter with a measurement limit of 5A, the dial is divided into 25 smallest intervals. When measuring the current intensity in an electrical circuit, the indicator needle is at the 16th interval. The measured current intensity is:

A.32 A B. 0.32 A C. 1.6 A D. 3.2 A

**Question 41**. What basic components are cells made of?

A. Cell membrane, cytoplasm

B. Nucleus and genetic material

C. Cell membrane and genetic material

D. Cell membrane, cytoplasm, nucleus and genetic material

**Question 42**. After 4 consecutive reproductions, a cell will produce how many daughter cells?

A. 4 B. 8 C. 12 D. 16

**Question 43**. Why do people often add green algae in aquariums?

A. Photosynthetic single-celled green algae release oxygen, increasing the amount of dissolved oxygen in them water

B. Single-celled green algae are also a nutritious natural food source for aquatic

animals

C. Create a blue water color to make the tank more beautiful

D. All three answers above are correct

**Question 44**. What disease does the SARS – CoV – 2 virus cause?

A. HIV – AIDS syndrome B. Acute respiratory infection

C. Dengue fever D. Japanese encephalitis

**Question 45.** The source of energy that starts life on earth is

A. Radioactive energy B. Sunlight energy.

C. Electricity. D. Chemical energy.

**Question 46**. In order for the body to grow and develop healthily, people need to supplement adequate nutrients. What nutrients do those nutrients include?

A. Iron, zinc, starch, protein, amino acids, vitamins and mineral salts

B. Carbohydrates (gluxit), proteins, mineral salts, vitamins, lipids

C. Vegetables, meat, eggs, fish and milk

D. Cereals, rice, meat, eggs, fish

**Question 47**. How is the amplitude of muscle contraction correlated with the mass of the object that needs to be moved?

A. The amplitude of muscle contraction depends only on the mass of the object that needs to be moved without resistance

influenced by other factors

B. The amplitude of muscle contraction does not depend on the mass of the object to be moved

C. The amplitude of muscle contraction is proportional to the mass of the object to be moved

D. The amplitude of muscle contraction is inversely proportional to the mass of the object to be moved

**Question 48**. To enhance the muscle's ability to produce work and help it work supplely, what do we need to pay attention to?

A. Take hot and cold baths according to the appropriate schedule to increase muscle endurance

B. Regularly practice sports

C. All remaining options

D. Work moderately

**Question 49**. Why can babies only need to be breastfed to still develop?

A. Breast milk has all the nutrients necessary for the body

B. Breast milk has many antibacterial substances

C. Breast milk has enough energy to provide for the baby

D. All of the above answers

**Question 50**. How is the composition of first urine different from blood?

A. Does not contain residues and essential mineral elements

B. Does not contain nutrients and blood cells

C. Does not contain large blood cells and proteins

D. Does not contain mineral ions and nutrients

**Question 51**. In what year was the first kidney transplant in the world performed?

A. 1963 B. 1954 C. 1926 D. 1981

**Question 52**. Normally, what volume of urine does the bladder reach before the urge to urinate appears?

A. 50 ml B. 1000 ml C. 200 ml D. 600 ml

**Question 53**. The process of converting solar energy into chemical energy in the ecosystem depends on which group of organisms?

A. Decomposers B. Primary consumers

C. Secondary consumers D. Producers

**Question 54.** The similarities between natural ecosystems and artificial ecosystems are:

A. have common characteristics of structural components

B. have common characteristics of species composition in the ecosystem

C. abiotic environmental conditions

D. stability of the ecosystem

**Question 55.** What ecological relationships are there in the ecosystem?

A. There are only relationships between organisms

B. Interrelationships between organisms and interactions between organisms and the environment

C. Interrelationships between organisms of the same species and organisms of different species

D. Interrelationships between organisms of the same species and interactions between organisms and the environment

**Question 56**. For artificial ecosystems, which of the following human impacts is used to maintain their stable state:

A. must not impact ecosystems B. adds matter and energy to ecosystems

C. adds material to ecosystems D. adds energy to ecosystems

**Question 57**. Ponds and lakes in nature are properly called:

A. standing water ecosystem B. freshwater ecosystem

C. flowing water ecosystem D. natural ecosystem

**Question 58**. The biotic components of an ecosystem include:

A. producers, consumers, and decomposers

B. producers, herbivores, and decomposers

C. plant-eating organisms, animal-eating organisms, decomposers

D. producers, predators, and decomposers

**Question 59**. When planting and taking care of trees, what factors do we need to pay attention to to help trees photosynthesize well?

A. Water B. Air

C. Light, temperature D. All 3 options A, B, C.

**Question 60**. Which of the following activities should students do to help protect trees at schools?

A. Organize tree care and protection activities: watering trees, loosening soil, pruning branches, catching worms, fencing trees, ...

B. Breaking branches and leaves is strictly prohibited.

C. Propaganda about the benefits of trees to raise awareness of plant care and protection.

D. All of the above actions.

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| VINH BAO DISTRICT People's Committee**GIANG BIEN SECONDARY SCHOOL** | **ANSWERS TO EXAM FOR GOOD STUDENTS****SCHOOL YEAR 2023-2024****NATURAL SCIENCE IN ENGLISH 8** |

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| **Question** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **Answer** | B | B | D | B | B | A | D | B | D | B |

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| **Question** | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 29 |
| **Answer** | B | C | B | B | C | C | C | B | A | C |

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| **Question** | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| **Answer** | C | B | D | A | A | B | D | B | B | A |

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| **Question** | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| **Answer** | A | A | B | B | B | B | D | B | A | D |

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| **Question** | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| **Answer** | D | D | A | B | B | B | D | C | D | C |

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| **Question** | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| **Answer** | A | C | D | A | B | B | A | A | D | D |