PHOTON THAILAND 2026

Photon Science Competition (Thailand)

Science Secondary G.9–10

Sunday, August 9, 2026

3:00 – 4:30 p.m. (90 minutes)

B

Instructions

1. This exam includes 40 questions, with 4 and 5 choices given (100 marks).
2. Use a 2B black pencil or darker one to fill in the circle.
3. Fill out your name, grade, school, test center, room, seat number, and identification number either in pen or in pencil.
4. If you want to change an answer that you have already marked, use a clean eraser to erase the incorrect answer and mark the new one.
5. It should be noted that figures in the exam are not drawn to scale.
6. Dictionaries, calculators, and electronic devices are not permitted in the test room.
7. Note taking can be done on the test paper only, with no extra sheet provided.
8. Do not write anything or make any symbols in the black barcode area along the edge of the paper except the answers on the answer sheet. Make sure the answersheet is not crumpled.
9. Submit the answer sheet to the proctor when the time is up.
10. Cheating in the exam may cause serious consequences including disqualification from receiving any award or joining the second round of the test held by PHOTON THAILAND.

Problems and Scoring

Part I : Number 1–30 are multiple-choice questions.
Each correct answer is worth 2 marks.

Part II : Number 31–40 are multiple-choice questions.
Each correct answer is worth 4 marks.

Should any disagreement arise, the judgment of the panel is deemed final.

Announcement of the results via
https://prod.miraah-education.com/student on September 18, 2026

: PhotonScienceCompetition.Thailand / Miraah.education

LINE
@miraah.edu

Part I : This is a multiple-choice test with 4 options. Students must choose only one best answer.

1. What type of chemical reaction is represented by the equation below?

$$\mathrm{Fe} + \mathrm{CuSO_4} \rightarrow \mathrm{FeSO_4} + \mathrm{Cu}$$

1. Combination reaction
2. Single-displacement reaction
3. Decomposition reaction
4. Neutralisation reaction

2. Match the materials in Column I with their common uses in Column II.

Column I	Column II
A. Bakelite	(1) Disposable cups
B. Melamine	(2) Non-stick pan coating
C. Teflon	(3) Electrical switches
D. Polystyrene	(4) Kitchenware

1. A-(1), B-(3), C-(2), D-(4)
2. A-(4), B-(3), C-(1), D-(2)
3. A-(2), B-(1), C-(4), D-(3)
4. A-(3), B-(4), C-(2), D-(1)

3. What is the process by which buried plant remains are gradually transformed into coal under heat and pressure over millions of years?

1. Catenation
2. Carbonization
3. Pyrolysis
4. Destructive distillation

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4. Which of the following is not a displacement reaction that can actually occur?
    1. Zinc + dilute sulfuric acid ⟶ zinc sulfate + hydrogen
    2. Copper + silver nitrate ⟶ copper (II) nitrate + silver
    3. Zinc + iron (II) sulfate ⟶ zinc sulfate + iron
    4. Copper + dilute hydrochloric acid ⟶ copper (II) chloride + hydrogen

5. Select the figure, which satisfies the same condition of placement of the dots as in the Fig. (X).

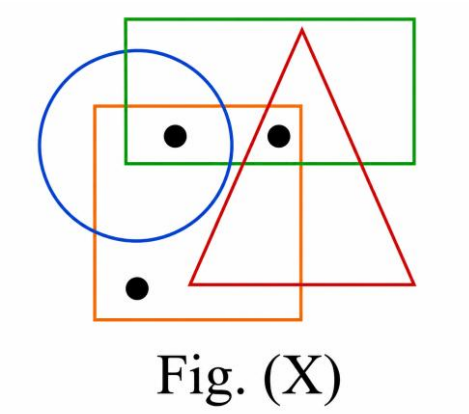
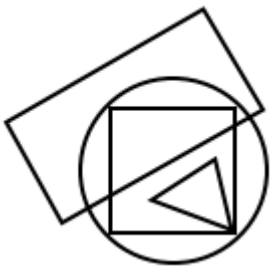
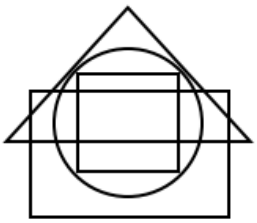
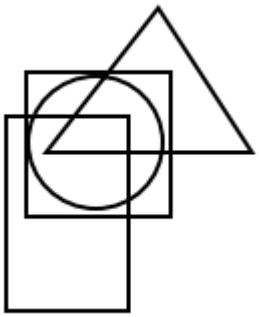
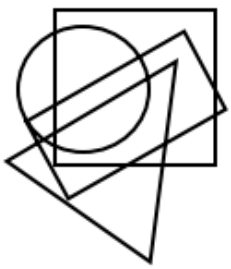


Fig. (X)

1. 

2. 

3. 

4. 

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6. In a code language, "MTUXTRVN" is written as "NUVXTQUM". How is "ASUMNJKL" written in that code language?

1. BTVMNIJK
2. BTVMNKLM
3. BTVJNMIJK
4. ZRTMNIJK

7. A biology student uses a straw to bubble exhaled air through a beaker containing water and a few drops of bromothymol blue indicator. The solution is initially slightly alkaline and appears blue. After the student blows bubbles through the liquid for two minutes, the solution turns yellow. Which biochemical process and physicochemical property are demonstrated?

1. Cellular respiration releases oxygen, which dissolves in water and makes the solution more alkaline.
2. Cellular respiration releases nitrogen, which reacts with the indicator and changes the solution to yellow.
3. Cellular respiration releases carbon dioxide, which dissolves in water and forms carbonic acid, lowering the pH.
4. Cellular respiration releases heat, which raises the water temperature and makes the solution strongly alkaline.

8. An engineer pours 200 g of pure liquid water at an initial temperature of 25 °C into an insulated calorimeter. The engineer then drops a 50 g block of an unknown pure metal heated to 100°C into the water. After a few minutes, the system reaches a stable equilibrium temperature of 27°C. Given that the specific heat capacity of water (C_{water}) is 4.18 J/g.°C , calculate the specific heat capacity of the unknown metal (C_{metal}).

1. 0.153 J/g·°C
2. 0.458 J/g·°C
3. 1.235 J/g·°C
4. 4.180 J/g·°C

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9. During a laboratory session, a student spots a sample mixture onto a chromatography paper and places it into a beaker. However, the student accidentally pours too much solvent into the beaker, causing the initial solvent level to sit above the penciled baseline where the sample mixture was spotted. What will be the most likely outcome of this procedural error?

1. The sample will separate twice as fast because it is completely submerged in the liquid.
2. The R_f values of all components will automatically double.
3. The sample spots will dissolve directly into the solvent pool at the bottom of the beaker, washing off the paper and failing to separate.
4. The paper will undergo chemical combustion due to excess moisture pressure.

10. A farmer breeds rabbits and focuses on two independently assorting genes: Gene A (controlling fur length: A for short, a for long) and Gene B (controlling fur density: B for dense, b for sparse). The farmer crosses two rabbits with the genotypes AaBb and Aabb. What is the probability that an offspring chosen at random will have short, sparse fur?

1. $\frac{1}{8}$
2. $\frac{1}{4}$
3. $\frac{3}{4}$
4. $\frac{3}{8}$

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11. In a genetics laboratory, researchers study two traits in fruit flies (Drosophila melanogaster): body color (gray vs. black) and wing shape (normal vs. vestigial). A dihybrid female fly (heterozygous for both traits) is crossed with a double mutant male fly (black body and vestigial wings). The offspring phenotypes are counted as follows: 415 Gray body, Normal wings; 92 Gray body, Vestigial wings; 88 Black body, Normal wings; 405 Black body, Vestigial wings. What can be concluded about the genes governing these traits?

1. The two genes are linked on the same chromosome, with a recombination frequency of approximately 82%.
2. An error occurred during fertilization, resulting in an abnormal triploid chromosome count in the recombinants.
3. The traits are determined by a single gene displaying multiple alleles with pleiotropic effects.
4. The two genes are linked on the same chromosome, with a recombination frequency of approximately 18%.

12. A molecular biologist isolates a sample of DNA from a eukaryotic cell line. Chemical analysis reveals that adenine constitutes 34% of the total nitrogenous bases in this DNA sample. What should be the expected percentage of cytosine bases in the same sample?

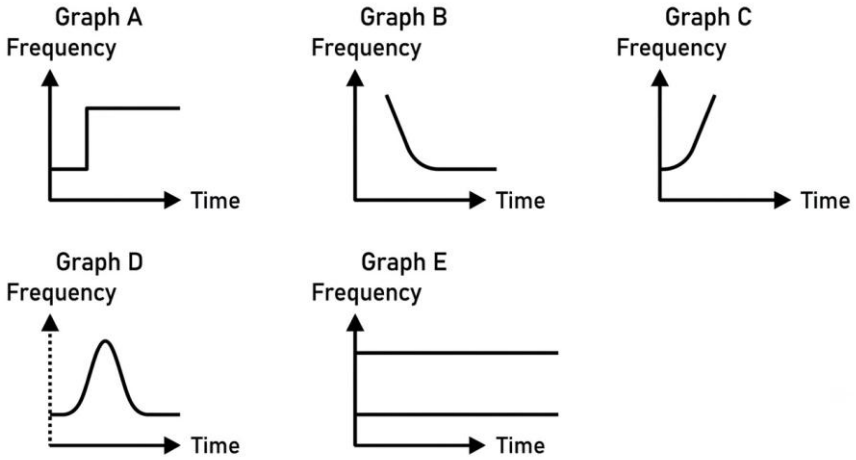
1. 68%
2. 34%
3. 32%
4. 16%

13. The blood-brain barrier utilizes specific tight junctions to maintain a highly controlled environment. Which transport method is most likely utilized to move large, polar insulin molecules across this barrier into the brain?

1. Simple diffusion through the membrane.
2. Gated ion channels.
3. Paracellular transport between cells.
4. Receptor-mediated transcytosis.

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14. Freshwater unicellular organisms, such as *Paramecium caudatum*, live in an environment where the surrounding water has a much lower solute concentration than their internal cytoplasm. To prevent themselves from bursting due to the continuous influx of water, they utilize a specialized organelle called a contractile vacuole to actively pump excess water out of the cell. A student treats a culture of *Paramecium* with a metabolic poison that completely inhibits cellular respiration. Which graph correctly predicts the change in the contraction frequency of the contractile vacuole over time?



1. Graph B; because pumping water requires energy, and without cellular respiration, ATP levels drop, causing the pumping rate to decrease to zero.

2. Graph C; because water will enter even faster due to simple diffusion, forcing the vacuole to work infinitely harder.

3. Graph D; because the vacuole will temporarily speed up before exploding due to osmotic pressure.

4. Graph E; because the movement of water is entirely passive and does not rely on cellular metabolism or ATP.

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15. A team of cell biologists is investigating how a newly discovered water-soluble plant toxin enters human intestinal epithelial cells. They measure the rate of toxin uptake under two different conditions.

Condition I : The cells are maintained in an oxygen-rich nutrient solution at 37°C. The rate of toxin uptake increases as the toxin concentration rises but eventually reaches a plateau at high concentrations.

Condition II : Cellular ATP production is greatly reduced and confirmed experimentally. However, the rate and pattern of toxin uptake remain unchanged from Condition I.

Which transport mechanism most likely allows the toxin to enter the cells?

1. Simple diffusion through the phospholipid bilayer
2. Facilitated diffusion through membrane transport proteins
3. Primary active transport using ATP-powered pumps
4. Receptor-mediated uptake through membrane vesicles

16. A light ray enters a rectangular glass block (n_g = 1.50) from air (n_a = 1.00) at an incidence angle of 60°. The block has a thickness of 10 cm. After passing through the block and exiting back into the air, what is the lateral displacement (the perpendicular distance between the incident ray's path and the emergent ray's path)?

1. 5.13 cm
2. 4.22 cm
3. 3.45 cm
4. 8.66 cm

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17. A converging lens with focal length f = 15 cm is placed 45 cm in front of a plane mirror. An object is placed 20 cm in front of the lens. Where is the final image formed by the system (after light passes through the lens, reflects off the mirror, and passes back through the lens)?

1. 15 cm behind the lens
2. 15 cm in front of the lens
3. 20 cm in front of the lens
4. 30 cm in front of the lens

18. An engineer tests a high-precision cylindrical copper wire of length L and cross-sectional area A, which has a measured electrical resistance R. During a manufacturing simulation, the wire is uniformly stretched until its length becomes 3L while its volume remains strictly constant. What is the new electrical resistance of the stretched wire in terms of its original resistance R?

1. 27R
2. 3R
3. 9R
4. 6R

19. A sign weighing 300 N hangs from the end of a uniform horizontal strut of weight 100N and length 2.0 m. The strut is attached to a wall by a hinge. A cable runs from the outer end of the strut to a point on the wall directly above the hinge, making an angle of 30° with the strut. Find the tension in this cable.

1. 350 N
2. 700 N
3. 400 N
4. 800 N

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20. A block of mass sits on an inclined plane. As the angle of inclination θ is slowly increased from zero, the block remains stationary until θ reaches 37°, at which point it just begins to slide. What does this experiment reveal about the forces acting on the block at that critical angle?

1. The normal force has become greater than the static friction force.
2. The component of gravity parallel to the incline exactly equals the maximum static friction force.
3. The net force on the block is accelerating it at its maximum possible rate.
4. Kinetic friction has fully replaced static friction before any movement started.

21. A 2000 kg car accelerates from rest under a constant power of 40 kW. Neglecting friction and air resistance, how much time does it take for the car to reach a speed of 20 m/s?

1. 5.0 s
2. 10.0 s
3. 15.0 s
4. 20.0 s

22. A student performs an experiment with a sample of gas trapped inside a cylinder fitted with a frictionless piston. The student rapidly pushes the piston down, compressing the gas before any heat has a chance to escape through the cylinder walls. Which of the following statements best describes the microscopic behavior of the gas molecules immediately after this compression?

1. The potential energy between molecules decreases, keeping the temperature perfectly constant.
2. The molecules slow down because they are confined to a smaller volume and collide more frequently.
3. The average kinetic energy stays the same because the process happens too fast for heat to transfer.
4. The average kinetic energy of the molecules increases because the moving piston transfers mechanical energy to them during collisions.

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23. A student is conducting an experiment to compare the thermal properties of two different liquids, Liquid A and Liquid B. They place 100 grams of each liquid in separate beakers and supply them with the same amount of heat energy from an identical heating source for 5 minutes. After 5 minutes, they observe that Liquid A's temperature has increased by 10°C, while Liquid B's temperature has increased by 20°C. Which of the following is the most accurate conclusion that can be drawn from this experiment?

1. The liquids absorbed different amounts of heat energy from the heating sources.
2. Liquid A has a greater specific heat capacity than Liquid B.
3. The experiment is flawed because the temperatures should have risen by the same amount.
5. Liquid A has a lower specific heat capacity because its temperature change was smaller.

24. A research satellite orbiting Earth experiences a sudden, intense flux of high-energy particles and X-rays, causing temporary disruptions in its communication telemetry. Simultaneously, scientists on Earth observe a spectacular auroral display at lower latitudes than usual. Based on these systemic interactions, which solar phenomenon is most likely responsible for these immediate effects, and what is the underlying mechanism affecting Earth?

1. The solar sunspot cycle; it directly alters the gravitational constant between Earth and the Sun, leading to upper atmospheric friction.
2. Solar flares and Coronal Mass Ejections (CMEs); they release highly charged particles that deform Earth's magnetosphere and induce geomagnetic storms.
3. Nuclear fusion in the solar core; it accelerates radiative energy transfer through the convective zone, causing atmospheric ionization.
4. Prominences extending into the corona; they block the normal solar wind, creating a temporary vacuum that pulls Earth's ionosphere outward.

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25. A biology student isolates three different unknown cell samples (X, Y, and Z) from a local pond and an agricultural field. To identify the nature of these cells, he performs chemical assays and microscopic examinations, recording the presence (+) or absence (-) of specific structures in the table below:

Cellular Feature	Sample X	Sample Y	Sample Z
Peptidoglycan Cell Wall	+	-	-
Linear DNA with Histones	-	+	+
Membrane-bound Chloroplasts	-	-	+
Large Central Vacuole	-	-	+

Based on the data collected in the table, which of the following choices correctly identifies the domains or kingdoms to which Sample X, Sample Y, and Sample Z belong?

1. Sample X: Archaea Sample Y: Cyanobacteria Sample Z: Fungal Cell.
2. Sample X: Gram-positive Bacteria Sample Y: Animal Cell Sample Z: Plant Cell.
3. Sample X: Eukaryote Sample Y: Prokaryote Sample Z: Algal Cell.
4. Sample X: Fungal Cell Sample Y: Plant Cell Sample Z: Animal Cell.

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26. An in vitro experiment is conducted on a culture of mammalian macrophages to observe their phagocytic activity (engulfing invading bacteria). The researchers treat one group of macrophages with *Cytochalasin B*, a potent drug that binds to the plus ends of actin filaments and prevents their polymerization. Upon exposing the treated macrophages to *E. coli* bacteria, they observe a complete failure in the formation of pseudopodia (cellular extensions), preventing the cells from engulfing the bacteria. Which component of the cytoskeleton is directly disrupted by this drug, and what is its structural composition?

1. Microtubules hollow tubes composed of alpha and beta-tubulin dimers that guide organelle movement.
2. Intermediate Filaments fibrous proteins supercoiled into thicker cables composed of keratin that maintain cell shape.
3. Microfilaments (Actin Filaments) two intertwined strands of actin subunits responsible for cell motility and shape changes.
4. Centrosomes are structures composed of centrioles that organize the mitotic spindle during cell division.

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27. A geneticist is studying a species of wild lily (2n = 6) to understand how meiosis generates genetic diversity. She tracks three specific genes located on three different pairs of homologous chromosomes. During her observations of Microsporogenesis (pollen formation), which of the following statements correctly evaluates how these two specific phases contribute mathematically and structurally to the genetic uniqueness of the resulting pollen grains?

1. Prophase I introduces variation via Crossing Over, while Metaphase I introduces variation via the Independent Assortment of maternal and paternal homologous pairs.
2. Prophase I fully duplicates the genome to create mutations, while Metaphase I eliminates any damaged alleles through programmed cell death.
3. Both phases achieve genetic diversity solely by changing the total number of chromosomes from diploid (2n) to tetraploid (4n).
4. Variation occurs exclusively in Prophase I when spindle fibers pull single chromatids to one side of the nuclear membrane without using ATP.

28. Consider three hypothetical elements in the third period of the periodic table

Element A, Element B, and Element C. The first ionization energy (IE_1) of Element B is unexpectedly higher than that of Element C, even though Element C has a higher atomic number than Element B.

Element A has the lowest IE_1 among the three and reacts violently with halogens to form a salt with a 1:1 ratio. Which of the following statements correctly deduces the identities or groups of these elements?

1. Element A is Sodium (Group 1), Element B is Sulfur (Group 16), and Element C is Phosphorus (Group 15).
2. Element A is an alkaline earth metal, Element B is in Group 15, and Element C is in Group 16.
3. Element A is a halogen, Element B is a noble gas, and Element C is an alkali metal.
4. Element A is an alkali metal (Group 1), Element B is Phosphorus (Group 15), and Element C is Sulfur (Group 16).

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29. Two elements, A (Atomic number = 7) and B (Atomic number = 17), react together to form a stable compound. Based on their electronic configurations, analyze the type of bond formed and the predicted molecular formula of this compound.

1. Ionic bonds are formed by electron transfer, resulting in a formula of A_3B.
2. Covalent bonds are formed by sharing electrons, resulting in a molecular formula of AB_3.
3. Metallic bonds are formed due to delocalized electrons, resulting in a formula of AB.
4. Covalent bonds are formed by sharing electrons, resulting in a molecular formula of A_2B.

30. A laboratory investigation shows that Molecule Y has a central atom with 4 bonding pairs of electrons and 0 lone pairs in its valence shell. According to the VSEPR theory, predict the correct molecular geometry and bond angle of Molecule Y.

1. Linear shape with a bond angle of exactly 180°.
2. Trigonal pyramidal shape with a bond angle of around 107°.
3. Tetrahedral shape with a bond angle of approximately 109.5°.
4. Square planar shape with a bond angle of exactly 90°.

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Part II : This is a multiple-choice test with 5 options. Students must choose only one best answer.

31. A student is investigating a mysterious white crystalline solid found in an old laboratory. Upon qualitative analysis, the compound is found to contain sodium, carbon, and oxygen. When 10.60 grams of this anhydrous compound is completely reacted with an excess of dilute hydrochloric acid, it produces a brisk effervescence of a colorless gas. The gas is trapped and determined to be 4.40 grams of carbon dioxide, along with the formation of 11.70 grams of sodium chloride and 1.80 grams of water. Based on the law of conservation of mass and stoichiometric principles, what is the correct empirical formula of this mysterious white solid?

1. Na_2CO_3
2. $Na_2C_2O_4$
3. $NaHCO_3$
4. Na_3CO_3
5. NaC_2O_4

32. A laboratory technician wants to prepare a standard solution for a precipitation reaction. They decide to mix an aqueous solution of silver nitrate, with an aqueous solution of iron (III) chloride. Upon mixing, a dense white precipitate of silver chloride forms immediately, leaving iron (III) nitrate in the solution. Which of the following options represents the correctly balanced net ionic equation for this chemical process, reflecting the species that actually participate in the bond formation?

1. $3Ag^+(aq) + 3NO_3^-(aq) + Fe^{3+(}aq) + 3Cl^-(aq) \rightarrow 3AgCl(s) + Fe_3+(aq) + 3NO_3^-(aq)$
2. $Fe^{3+}(aq) + 3Cl^-(aq) \rightarrow FeCl_3(s)$
3. $3Ag^+(aq) + Fe^{3+}(aq) \rightarrow Ag_3Fe(s)$
4. $Ag^+(aq) + Cl^-(aq) \rightarrow AgCl(s)$
5. $3AgNO_3(aq) + FeCl_3(aq) \rightarrow 3AgCl(s) + Fe(NO_3)_3(aq)$

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33. During a chemical safety demonstration, a teacher performs the combustion of liquid octane (C_8H_{18}), a major component of gasoline, in a sealed chamber supplied with pure oxygen gas. If the reaction undergoes complete combustion to produce carbon dioxide gas and water vapor, what is the sum of all the stoichiometric coefficients when the chemical equation is correctly balanced using the lowest possible whole numbers?

1. 31
2. 27
3. 61
4. 45
5. 59

34. Two high-speed maglev trains, Train A and Train B, are on parallel straight tracks. Initially, Train A is moving at a constant speed of 40 m/s and passes Train B, which is at rest. At the exact instant Train A passes Train B, Train B begins to accelerate at a constant rate of 2.0 m/s^2. How far from the initial starting point will Train B overtake Train A?

1. 2000 meters
2. 1200 meters
3. 800 meters
4. 1600 meters
5. 400 meters

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35. An aerospace engineer is designing an experimental high-speed elevator system for a futuristic skyscraper. Inside the cabin, a 5.0 kg sensitive scientific instrument rests on a digital laboratory scale that measures the normal force in Newtons. The elevator starts from the ground floor and accelerates upward at a steady rate of 3.0 m/s^2 for a short duration. What will be the apparent weight of the instrument registered by the digital scale during this upward acceleration phase?

1. 64.0 N
2. 49.0 N
3. 74.0 N
4. 34.0 N
5. 15.0 N

36. A rescue helicopter is lifting a stranded hiker of mass 80 kg out of a canyon using a vertical steel cable. Due to turbulent wind conditions, the helicopter does not maintain a steady upward climb; instead, the tension in the cable varies over time. At a specific moment during the ascent, an electronic sensor attached to the cable registers a tension force of 944 N. Evaluate the instantaneous dynamic state of the hiker.

1. The hiker is accelerating upward at a rate of 11.8 m/s^2.
2. The hiker is accelerating upward at a rate of 2.0 m/s^2.
3. The hiker is accelerating downward at a rate of 2.0 m/s^2.
4. The hiker is moving upward at a constant speed of 11.8 m/s.
5. The hiker is completely stationary in mid-air.

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37. During a deep-sea drilling expedition near a mid-ocean ridge, scientists collect rock samples at varying distances from the ridge axis. They discover that as the distance from the ridge increases, the sediment layer becomes thicker, the volcanic rocks become older, and the overall density of the oceanic lithosphere increases. Based on the principles of plate tectonics and isostasy, what is the primary reason the older oceanic lithosphere sinks deeper into the asthenosphere?

1. The continuous accumulation of heavy marine sediments on top of the crust pushes the plate down mechanically.
2. The gravitational pull from the subduction zone drags the entire plate downward, stretching it and making it denser.
3. The pressure from the overlying column of ocean water increases with distance, compressing the rock layers into denser states.
4. The older lithosphere absorbs water over millions of years, becoming chemically heavier through hydration reactions.
5. As the lithosphere moves away from the heat source at the ridge, it cools down conductively, causing the underlying mantle to contract, thicken, and become denser.

38. Which of the following correctly traces the chronological order of cellular structures formed during the development of the male gametophyte in angiosperms.?

1. Microspore tetrad → Microspore mother cell → Tube cell → Sperm cells
2. Generative cell → Sperm cells → Microspore mother cell → Tube cell
3. Microspore mother cell → Sperm cells → Microspore tetrad → Tube cell
4. Microspore mother cell → Generative cell → Microspore tetrad → Sperm cells
5. Microspore mother cell → Microspore tetrad → Single-celled microspore → Pollen grain with tube and generative cells → Sperm cells

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39. Look at the food web diagram representing a coastal kelp forest ecosystem:

Orcas (killer whales) ⟶ **sea otters** ⟶ **sea urchins** ⟶ **kelp** (marine algae /producer)

Due to a decline in their usual deep-sea prey, orcas recently shifted their diet to hunt more sea otters. Marine biologists monitored the ecosystem over 5 years. Which graph correctly predicts the changes in the biomass of sea urchins and kelp over this period?

1. Both sea urchin and kelp biomass will increase continuously as orcas stabilize the food web.
2. Sea urchin biomass will increase drastically, leading to a severe decline in kelp biomass.
3. Sea urchin biomass will decrease because they lose their primary food source as kelp expands.
4. Kelp biomass will increase rapidly because sea otters are no longer eating the kelp directly.
5. The populations of all species will remain completely unchanged because orcas are at the top of the pyramid.

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40. In the freshwater ecosystem, the food web is structured as follows: **phytoplankton** (producers) → **zooplankton** (primary consumers) → **small minnows** (secondary consumers) → **great herons** (tertiary consumers). Over the last two years, two major changes occurred:

A massive influx of nitrate-rich agricultural runoff entered the basin. An invasive 'Floating Fern' rapidly colonized the basin, covering 80% of the water surface within months. While the nitrates theoretically provide more nutrients for growth, the floating fern blocks nearly all sunlight from reaching the water column and consumes a significant amount of dissolved oxygen at night. Based on these ecological stressors, which of the following is the most scientifically accurate prediction regarding the long-term state of this ecosystem?

1. A bottom-up collapse will occur as the lack of sunlight prevents phytoplankton photosynthesis.
2. The basin will undergo extreme eutrophication, leading to a massive increase in the great heron population.
3. Dissolved oxygen levels will rise during the day as the floating fern increases the basin's total photosynthetic rate.
4. The zooplankton population will increase by switching their diet to consume the floating fern's roots.
5. The ecosystem will reach a new stable equilibrium with higher biodiversity due to the added nutrients.

---------- End of Questions ----------

Please check your answers before submitting the answer sheet.

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Answers Keys : Science Secondary - Grade 9 - 10

No.	Answers	No.	Answers
1.	2	21.	2
2.	4	22.	4
3.	2	23.	2
4.	4	24.	2
5.	4	25.	2
6.	1	26.	3
7.	3	27.	1
8.	2	28.	4
9.	3	29.	2
10.	4	30.	3
11.	4	31.	1
12.	4	32.	4
13.	4	33.	3
14.	1	34.	4
15.	2	35.	1
16.	1	36.	2
17.	4	37.	5
18.	3	38.	5
19.	2	39.	2
20.	2	40.	1

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