UNICUS OLYMPIADS

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Sample Paper

Class 10

Unicus Global Science Olympiad (UGSO)

Time: 60 minutes

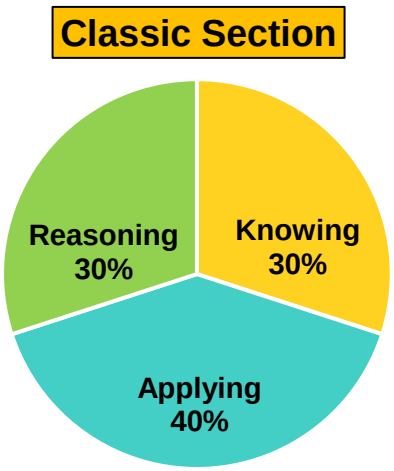
Pattern and Marking Scheme			
Section	**Total Questions**	**Marks per Question**	**Total Marks**
Classic Section	30	1	30
Scholar Section	15	2	30
Grand Total	**45**		60

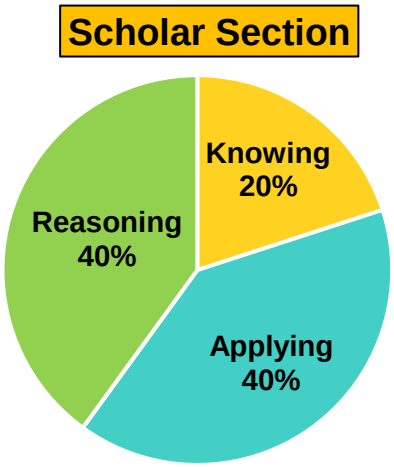
Unicus Global Science Olympiad (UGSO)

The **Unicus Global Olympiad** is organised around two dimensions:

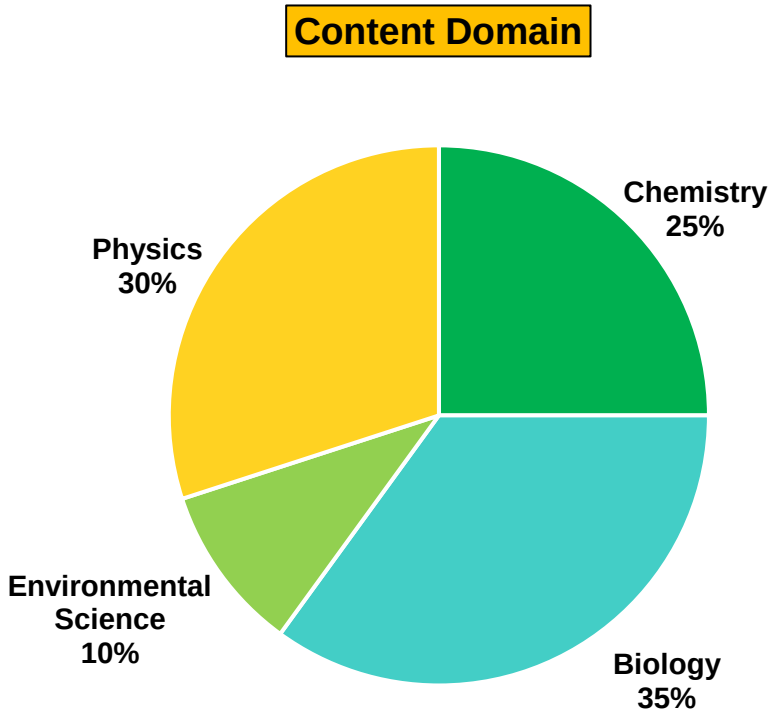
1. Content dimension, specifying the subject matter domains to be assessed
2. Cognitive dimension, specifying the thinking processes to be assessed

Target percentages of the question paper devoted to cognitive domains





Target percentages of the question paper devoted to content domains



For more details, visit https://www.unicusolympiads.com/.

Classic Section (Each Question is 1 Mark)

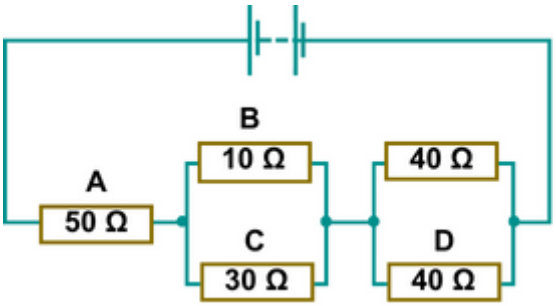
Cognitive Domain: Knowing	Content Domain: Physics

1. A wire has a resistance of 12 Ω. A second wire, made of the same material, has half the length and half the cross-sectional area.
What is the resistance of the second wire?

a. 3 Ω
b. 6 Ω
c. 12 Ω
d. 48 Ω

Cognitive Domain: Applying	Content Domain: Physics

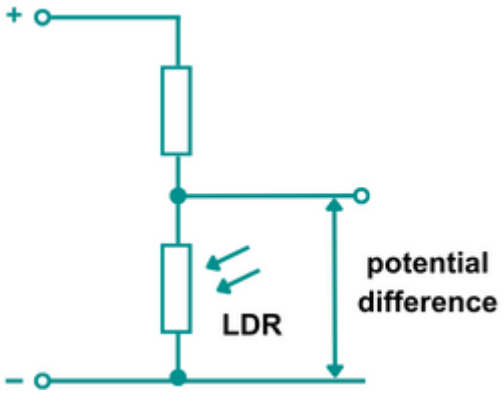
2. The diagram shows a circuit containing five resistors connected to a battery.
In which resistor is the current the smallest?



a. A
b. B
c. C
d. D

Cognitive Domain: Reasoning	Content Domain: Physics

3. The diagram shows part of a circuit used to switch street lamps on and off automatically.
Which of the following shows the effect on the resistance of the light-dependent resistor (LDR) and on the potential difference across it as it gets brighter?



a. Resistance of LDR – Decreases, Potential difference across LDR - Decreases
b. Resistance of LDR – Decreases, Potential difference across LDR - Increases
c. Resistance of LDR – Increases, Potential difference across LDR - Decreases
d. Resistance of LDR – Increases, Potential difference across LDR - Increases

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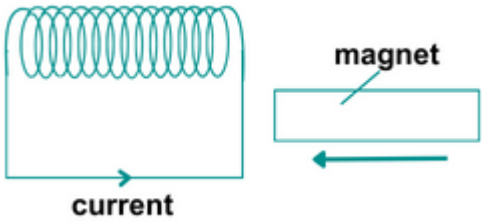
Cognitive Domain: Reasoning	Content Domain: Physics

4. A magnet is pushed slowly into a coil and there is current in the coil in the direction shown. The magnet is then pulled out quickly from the same end of the coil. What happens to the size and direction of the current?



a. Size - Decreased, Current - Reversed
b. Size - Decreased, Current - Unchanged
c. Size - Increased, Current - Reversed
d. Size - Increased, Current - Unchanged

Cognitive Domain: Applying	Content Domain: Physics

5. In many cold countries, a night storage heater is used to heat up rooms. It contains a large block of material that is heated electrically during the night to store heat in the blocks for use in the day. During the day the block cools down, releasing thermal energy into the room. What heat capacity of the block and what night-time temperature increase will cause the most energy to be stored by the block?

a. Heat capacity of the block – Small, Night-time temperature increase - Small
b. Heat capacity of the block – Large, Night-time temperature increase - Small
c. Heat capacity of the block – Small, Night-time temperature increase - Large
d. Heat capacity of the block – Large, Night-time temperature increase - Large

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Cognitive Domain: Reasoning	Content Domain: Physics

6. 30 g of water at 50°C is poured into a vessel containing 60 g of water at 10°C. The final temperature of the mixture is 20°C. Taking the specific heat capacity of water as 4.2 $Jg^{-1}K^{-1}$, calculate the heat capacity of the vessel.

a. 126 JK^{-1}
b. 306 JK^{-1}
c. 504 JK^{-1}
d. 640 JK^{-1}

Cognitive Domain: Knowing	Content Domain: Physics

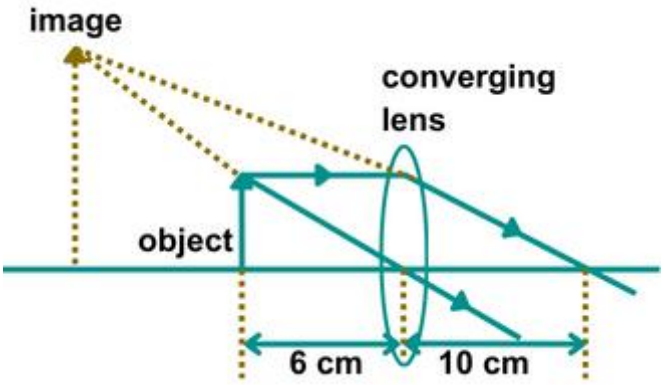
7. Which statement accurately describes the effect of pressure on the melting point of substances?

A. The melting point of substances that contract on melting, like ice, decreases with an increase in pressure.
B. The melting point of substances that expand on melting, like wax and lead, decreases with an increase in pressure.
C. The melting point of all substances decreases uniformly with an increase in pressure.
D. The effect of pressure on the melting point of substances is unpredictable and varies depending on the substance.

a. Only A
b. Only C
c. Both A and B
d. Only D

Cognitive Domain: Reasoning	Content Domain: Physics

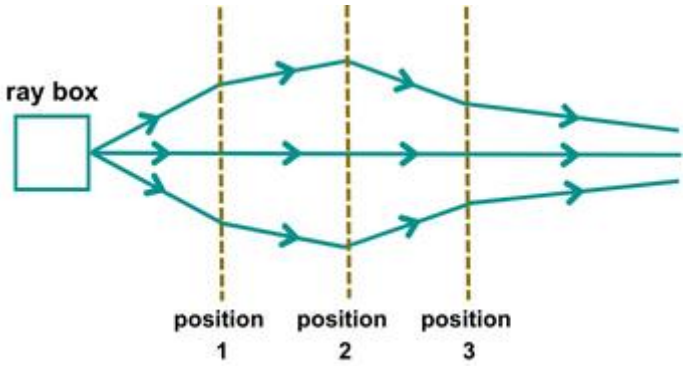
8. The diagram shows a converging lens used as a magnifying glass when the object is at 6 cm from the centre of the lens.
How far is the image from the lens when the object is now placed 20 cm away from the lens?



a. 10 cm
b. 12 cm
c. 18 cm
d. 20 cm

Cognitive Domain: Applying	Content Domain: Physics

9. The rays of light from a ray-box pass through three lenses placed at positions 1, 2 and 3.
What type of lens is used at each position?



a. position 1 - converging, position 2 - converging, position 3 - converging
b. position 1 - converging, position 2 - converging, position 3 - diverging
c. position 1 - diverging, position 2 - converging, position 3 - diverging
d. position 1 - diverging, position 2 - diverging, position 3 - diverging

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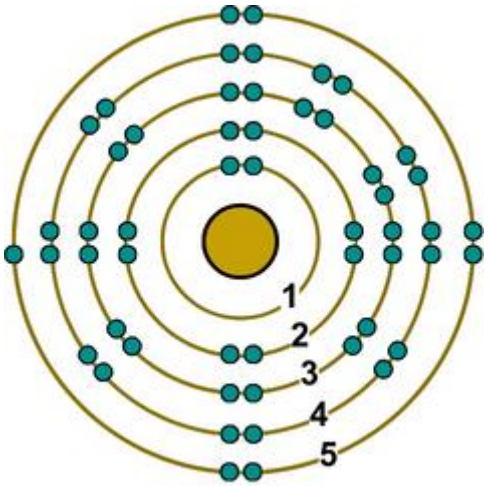
Cognitive Domain: Knowing	Content Domain: Chemistry

10. The electron arrangement of an element is shown in the picture below. In which group of the periodic table should this element be placed?



a. Group 17
b. Group 14
c. Group 7
d. Group 3

Cognitive Domain: Applying	Content Domain: Chemistry

11. Consider the following diagrams that represent different arrangements of particles. Which diagram best represents a mixture of Group 0 elements?

a. 

b. 

c. 

d. 

Cognitive Domain: Applying	Content Domain: Chemistry

12. The addition of water to citric acid ($C_6H_8O_7$) and sodium hydrogen carbonate ($NaHCO_3$) results in a reaction that is responsible for the fizz in soda pop. The balanced chemical equation for this reaction is:

$C_6H_8O_7$ (s) + $3NaHCO_3$(s) → $3CO_2$(g) + $3H_2O$(l) + $C_6H_5O_7Na_3$(aq)

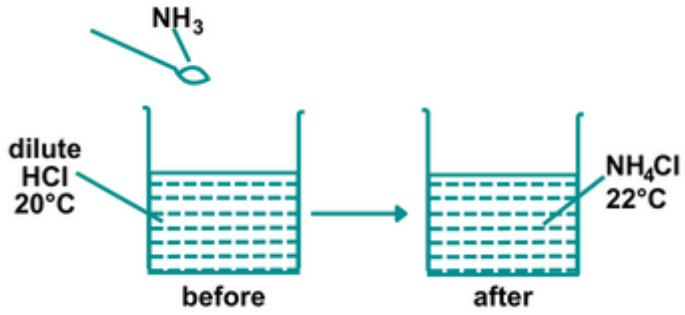
A student wants to make their own soda using 20.0 g of citric acid. To ensure all the citric acid reacts, what is the minimum mass of sodium hydrogen carbonate needed?
(Relative atomic masses: H = 1; C = 12; O =16; Na = 23)

a. 8.7 g
b. 26.3 g
c. 13.1 g
d. 52.4 g

Cognitive Domain: Applying	Content Domain: Chemistry

13. The diagram depicts an experiment where a student mixes two chemicals which results in a chemical reaction. The final solution contains ammonium chloride (NH_4Cl).
Identify the type of reaction that occurred during the experiment.

A. Endothermic
B. Neutralisation
C. Exothermic



a. B only
b. A and B only
c. B and C only
d. C only

Cognitive Domain: Reasoning	Content Domain: Chemistry

14. You are designing a portable camping stove that uses butane fuel canisters. When butane (CH_4H_{10}) from the fuel canister reacts with oxygen (O_2) in the air, a significant amount of heat is produced. This heat transfer is classified as an exothermic process.

$2C_4H_{10}$ + $13O_2$ → $8CO_2$ + $10H_2O$

Which of the following statements best explains why burning methane is an exothermic reaction?

A. The energy escapes the reaction and can potentially be measured as a temperature rise in the surroundings.

B. The reaction only occurs at high temperatures.
C. The reactants have weaker bonds than the products.

a. A only
b. A and B only
c. A and C only
d. A, B and C

Cognitive Domain: Knowing	Content Domain: Chemistry

15. Esters are a class of organic compounds. Which of the following combinations of functional groups is most likely to result in the formation of an ester?

a. Aldehyde - Ketone
b. Carboxylic acid - Alkene
c. Cycloalkane - Alcohol
d. Carboxylic acid - Hydroxyl

Cognitive Domain: Reasoning	Content Domain: Chemistry

16. The table below provides information on the amount of energy released when one mole of various alkanes is burned.
Given the data, analyse the relationship between the number of carbon atoms in the alkane molecule and the amount of energy released when one mole of the alkane is burned. Which of the following statements is true?

A. The energy released reflects the higher number of C-H bonds available for combustion.
B. As molecular complexity increases, so does the potential energy released from combustion reactions.
C. The linear relationship suggests that all CH_2 groups contribute equally to the total energy released.

Name of Alkane	Energy Released (kJ)
Methane	890
Ethane	1560
Propane	2220
Butane	2877
Pentane	3500

a. A only
b. A and B only
c. B and C only
d. A, B and C

Cognitive Domain: Knowing	Content Domain: Chemistry

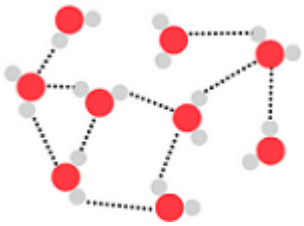
17. Different metals require different extraction methods due to their reactivity. Match the following metals with the most extraction process for each.

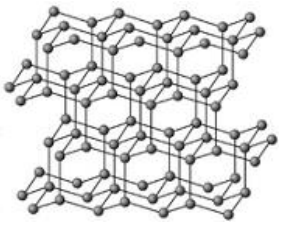
	Column I		Column II
1.	Mg	**A.**	Heating the ore
2.	Fe	**B.**	Electrolysis
3.	Hg	**C.**	Reacting with Carbon

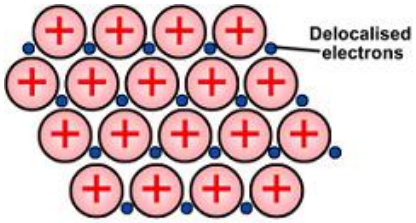
a. 1:B, 2:A, 3:C
b. 1:B, 2:C, 3:A
c. 1:C, 2:A, 3:B
d. 1:A, 2:B, 3:C

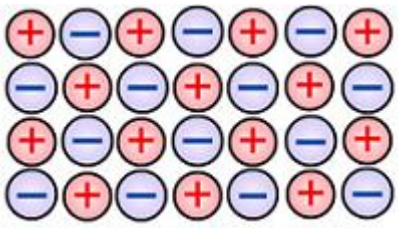
Cognitive Domain: Applying	Content Domain: Chemistry

18. Metals are known for their unique properties like conductivity and ductility. These properties are related to their specific bonding structure.
Which of the following diagrams represents the structure of a metal at the atomic level?

a. 

b. 

c. 

d. 

Cognitive Domain: Applying	Content Domain: Biology

19. Scientists are studying a population of yeast cells used for bread production. They discover a mutation in a protein essential for repairing DNA damage during cell division.
How might this mutation affect the offspring of these yeast cells?

a. The offspring will have more chromosomes than usual.
b. The offspring will be more likely to reproduce asexually.
c. The offspring will grow at a slower rate.
d. The offspring may have genetic abnormalities.

Cognitive Domain: Applying	Content Domain: Biology

20. A pea plant can have either smooth or wrinkled seeds. This trait is controlled by a single gene that has two different alleles. You are examining the pea plant's DNA for this gene.
Which of the following statement(s) is correct about these two alleles?

A. They control the same trait.
B. They control different traits
C. They occupy same position on the chromosome.
D. They occupy different positions on the chromosome.

a. A and D only
b. A and C only
c. B and C only
d. B and D only

Cognitive Domain: Knowing	Content Domain: Biology

21. Birds, unlike mammals, lack sweat glands. However, they can still regulate their body temperature. Given the role of the excretory system in osmoregulation, how might birds be able to expel excess heat and water without sweating?

a. They excrete a large amount of watery urine to cool their bodies.
b. They excrete excess salts through specialised glands near their beak.
c. They produce highly concentrated uric acid waste, minimising water loss.
d. They eliminate excess water and heat through rapid panting and respiration.

Cognitive Domain: Applying	Content Domain: Biology

22. Xylem is a plant tissue responsible for transporting water and dissolved minerals from the roots to the leaves. Certain features of xylem vessels make them particularly well-suited for this function, such as:

A. No end walls in individual xylem elements
B. Lignified walls

Select the option that explains how these features adapts xylem vessels for their function of transporting water from roots to leaves.

a. A: allow continuous water flow, B: prevents vessels from collapsing inwards
b. A: allow continuous water flow, B: prevent water loss from the xylem
c. A: allow water storage, B: allow water to move into and out of them
d. A: allow water storage, B: make vessels waterproof, preventing water loss

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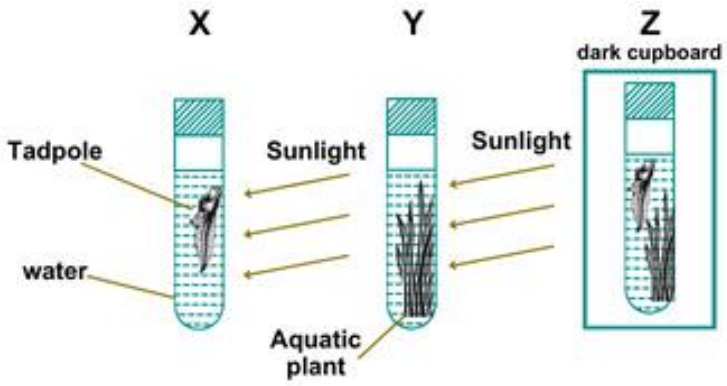
Cognitive Domain: Reasoning	Content Domain: Biology

23. An experiment is set up with tadpoles and aquatic plants as shown in the illustration below. Each tube starts with the same amount of water and the same concentration of dissolved carbon dioxide and oxygen. Tubes X and Y are placed in sunlight for one hour, while tube Z is placed in darkness for one hour. After one hour, the concentration of dissolved carbon dioxide is measured in each test tube. After one hour, the concentration of dissolved carbon dioxide and oxygen is measured in each test tube.
Based on your understanding, which of the following most accurately predicts the concentration of gases in each test tube after one hour?



a. **Test tube X -** CO_2: decreases O_2: decreases, **Test tube Y -** CO_2: decreases O_2: increases, **Test tube Z -** CO_2: remains same O_2: decreases
b. **Test tube X -** CO_2: increases O_2: decreases, **Test tube Y -** CO_2: decreases O_2: increases, **Test tube Z -** CO_2: increases O_2: decreases
c. **Test tube X -** CO_2: increases O_2: decreases, **Test tube Y -** CO_2: decreases O_2: decreases, **Test tube Z -** CO_2: remains same O_2: remains same
d. **Test tube X -** CO_2: increases O_2: decreases, **Test tube Y -** CO_2: increases O_2: decreases, **Test tube Z -** CO_2: decreases O_2: increases

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Cognitive Domain: Knowing	Content Domain: Biology

24. In an experiment, a potted plant is placed on its side. After several days, the roots exhibit positive gravitropism. Which hormone is primarily responsible for this response?

a. Gibberellin
b. Ethylene
c. Auxin
d. Abscisic acid

Cognitive Domain: Applying	Content Domain: Biology

25. You're on a camping trip and get lost in the forest. As night falls, the temperature drops significantly. You start to shiver uncontrollably. This helps maintain your body temperature. Which of the following system(s) in your body is/are responsible for this shivering response?

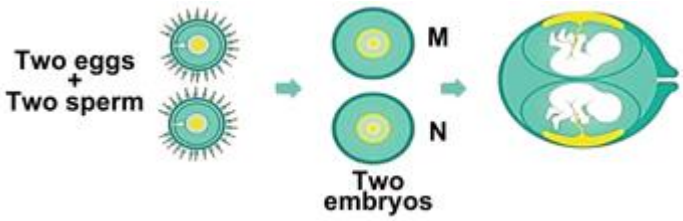
A. Endocrine system, releasing hormones to generate heat.
B. Peripheral nervous system, detecting the cold and sending signals to muscles.
C. Central nervous system, interpreting the temperature change and initiating shivering.

a. A and B only
b. C only
c. B and C only
d. A, B and C

Cognitive Domain: Reasoning	Content Domain: Biology

26. A woman gave birth to a pair of twins, M and N. The diagram below shows their formation. Considering their genetic and environmental background, which of the following characteristics of M and N are not likely to be the same?

A. Genetic information
B. Sex
C. Blood type
D. Height



a. A and B only
b. C and D only
c. D only
d. A, B, C and D

Cognitive Domain: Knowing	Content Domain: Biology

27. Bacteria are constantly evolving. Some strains develop resistance to antibiotics, making them difficult to treat with those medications. Doctors are looking for ways to slow the emergence of antibiotic-resistant bacteria.
According to the principles of natural selection, how might regularly changing the type of antibiotic prescribed for a particular bacterial infection MOST LIKELY decrease the chances of an antibiotic-resistant strain developing?

a. It allows doctors to target the specific weaknesses of a particular bacterial strain.
b. It weakens all existing bacterial strains, making them less likely to mutate.
c. It exposes bacteria to a wider range of antibiotics, making them less likely to develop resistance to any one type.
d. It strengthens the immune system, making it better equipped to fight off any resistant bacteria.

Cognitive Domain: Knowing	Content Domain: Environmental Science

28. A team of researchers discovers a unique deep-sea hydrothermal vent ecosystem teeming with life. Unlike most ecosystems where sunlight fuels the base, these vents rely on chemosynthetic bacteria. How might an ecological pyramid depicting the biomass at each level differ in this ecosystem compared to a sunlit one?

a. The pyramid will lack photosynthetic biomass altogether.
b. The pyramid will be inverted with the most biomass at the top.
c. The pyramid will be wider at the base compared to a sunlit ecosystem.
d. There will be no difference; pyramids always look the same.

Cognitive Domain: Applying	Content Domain: Environmental Science

29. Weathering is the process by which rocks are broken down into smaller fragments or dissolved by various agents. Based on the following descriptions of weathering processes identify the type of weathering involved.

1. Minerals within a rock expand at different rates when heated, causing the rock to crumble.
2. Carbonic acid in rain reacts with limestone rock to produce calcium bicarbonate, which is highly. Soluble
3. Tree roots grow into cracks and over time are capable of splitting rocks apart.

	1	2	3
A.	Physical	Physical	Biological
B.	Chemical	Physical	Biological
C.	Physical	Chemical	Biological
D.	Chemical	Chemical	Physical

a. A
b. B
c. C
d. D

Cognitive Domain: Reasoning	Content Domain: Environmental Science

30. In an effort to protect waterways, some farmers are using fewer chemical fertilisers. These fertilisers help crops grow more, but too much fertiliser can end up in rivers, harming the environment. Order the following statements to reveal the sequence of events leading to river pollution by excess fertiliser:

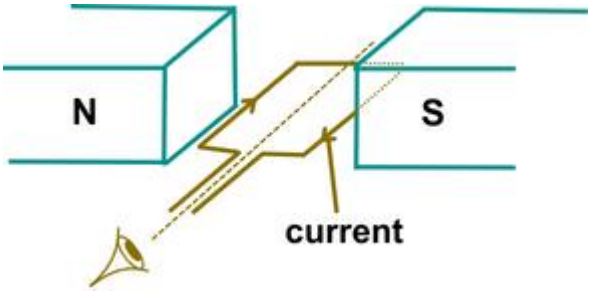
A. Spreading algae prevents sunlight from reaching plants on the riverbed.
B. Oxygen levels decrease, causing fish to die.
C. Fertilisers cause an increase in algae.
D. Plants then die and are decomposed by bacteria.
E. Excess fertiliser gets into waterways.

a. ECDAB
b. ECDBA
c. ECADB
d. ECBAD

Scholar Section (Each Question is 2 Marks)

Cognitive Domain: Applying	Content Domain: Physics

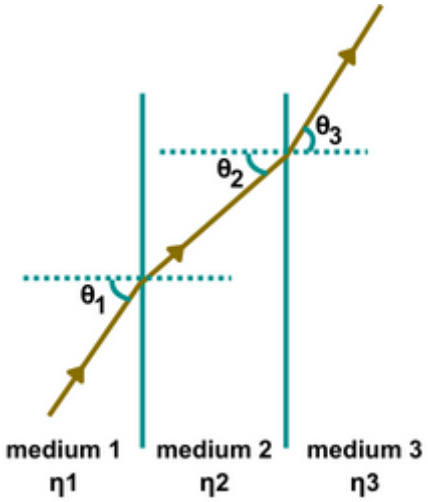
31. The diagram shows a pivoted coil held between the two poles of a magnet.
The pivoted coil carries a steady current in the direction shown.
When the coil is released, it rotates and then stops at an angle θ to its initial position.
When viewed as shown, in which direction does the coil rotate and what is the value of θ?



a. Direction - Anticlockwise, θ - 90°
b. Direction - Anticlockwise, θ - 180°
c. Direction - Clockwise, θ - 90°
d. Direction - Clockwise, θ - 180°

Cognitive Domain: Reasoning	Content Domain: Physics

32. A light ray passes through three media of refractive indices η_1, η_2 and η_3 respectively.
Given that $\theta_1 > \theta_3 > \theta_2$, which of the following is correct?



a. $\eta_1 > \eta_2 > \eta_3$
b. $\eta_2 > \eta_1 > \eta_3$
c. $\eta_1 > \eta_3 > \eta_2$
d. $\eta_2 > \eta_3 > \eta_1$

Cognitive Domain: Applying	Content Domain: Chemistry

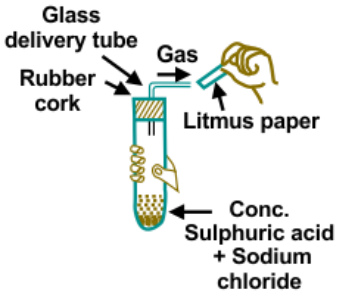
33. You have a beaker containing an alkaline solution.
Which of the following would happen when you add pure water to it?

A. Concentration of OH^- ions increase
B. Concentration of OH^- ions decrease
C. Number of OH^- remains the same
D. pH increases
E. pH decreases
F. pH remains the same

a. A and D only
b. B and E only
c. B, C and E only
d. C and F only

Cognitive Domain: Reasoning	Content Domain: Chemistry

34. You are a chemist working in a laboratory. You take a small amount of solid sodium chloride (NaCl) in a clean and dry test tube and carefully add some concentrated sulfuric acid (H_2SO_4). The reaction produces a gas. You want to determine whether the gas produced is acidic or basic using different litmus paper. You hold each of them near the opening of the test tube where the gas is escaping as shown in the figure below.
Which of the following observations would most likely indicate the nature of the gas?



	Red litmus paper		Blue litmus paper	
	Dry	Moist	Dry	Moist
A	Turns blue	Turns blue	No change	No change
B	No change	Turns blue	No change	No change
C	No change	No change	Turns red	Turns red
D	No change	No change	No change	Turns red

a. A
b. B
c. C
d. D

Cognitive Domain: Knowing	Content Domain: Chemistry

35. A chemist analyses a sample of a silicate mineral which consists of silicon, oxygen, and aluminium. The mass percentages are found to be 28.3% silicon, 46.6% oxygen, and 25.1% aluminium. If the molar masses are approximately Si = 28 g/mol, O = 16 g/mol, and Al = 27 g/mol, what is the empirical formula of the mineral?

a. SiO_3Al
b. SiO_3Al_2
c. SiO_5Al_2
d. Si_2O_3Al

Cognitive Domain: Reasoning	Content Domain: Biology

36. A scientist is studying cell division in an organism. The diagram shows the chromosomes in the nucleus of a diploid cell. Which of the following options accurately represents the nucleus of a gamete produced from this cell and the type of nuclear division used in its production?

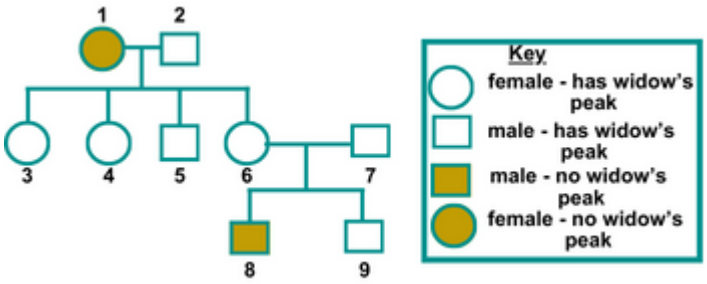
	Nucleus of the gamete	Nuclear division
A		Meiosis
B		Meiosis
C		Mitosis
D		Mitosis


Nucleus of diploid cell

a. A
b. B
c. C
d. D

Cognitive Domain: Reasoning	Content Domain: Biology

37. A particular family is being studied to understand the inheritance of a trait controlled by a single gene with two alleles: a dominant allele (B) and a recessive allele (b). The presence of a widow's peak (a distinct V-shaped hairline) is inherited through the dominant allele (B). The family members are labelled from 1 to 9 as shown in the figure, and their hairline characteristics is given. Based on your understanding and the information provided, predict the genotypes of the following individuals: 2, 7 and 8.



a. 2: Bb, 7: bb, 8: BB
b. 2: Bb, 7: Bb, 8: BB
c. 2: BB, 7: Bb, 8: bb
d. 2: BB, 7: Bb, 8: Bb

Cognitive Domain: Applying	Content Domain: Biology

38. The table below shows the number of chromosomes in different cell types of a plant species. Which of the following statements is most likely true?

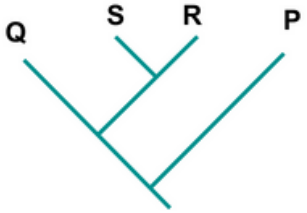
Cell Type	Root Cell	Pollen Grain	Ovule
Number of Chromosomes	10	5	5

a. This plant species can produce a diploid zygote.
b. This plant species reproduces asexually.
c. This plant species has a haploid number of chromosomes equal to 5.
d. Fertilisation in this plant results in offspring with 20 chromosomes.

Cognitive Domain: Applying	Content Domain: Biology

39. A student is examining several evolutionary trees depicting the relationships between species P, Q, R, and S. They know that one of the trees is incorrect and doesn't accurately represent the evolutionary history of these species.
Based on your understanding, identify the odd one out from the following trees.

a. 

b. 

c. 

d. 

Direction (for questions 40 to 42): Carefully read through the passage and answer the following questions.

You are helping to move a 3000 N refrigerator into a house, and you decide to use a ramp to make the task easier. The ramp is 5.0 m long, and the entrance to the house is 1.0 m above the ground. To understand how much easier the ramp makes your task, you need to calculate the ideal mechanical advantage (IMA) of the ramp.

The mechanical advantage is a measure of how much a machine, like your ramp, multiplies the force you apply. It is a way to quantify the reduction in effort needed to lift or move an object
By using the ramp, you distribute the required lifting force over a longer distance, making it possible to move the heavy refrigerator with much less effort. This principle is why ramps, levers, pulleys, and other simple machines are so useful in everyday tasks. They allow us to perform tasks that would otherwise require much more force.

Cognitive Domain: Knowing	Content Domain: Physics

40. What is the ideal mechanical advantage of the ramp?

a. 0.2
b. 0.5
c. 1
d. 5

Cognitive Domain: Applying	Content Domain: Physics

41. If you need to exert a 700 N force to push the refrigerator up the ramp with constant speed, determine the actual mechanical advantage.

a. 1.4
b. 3.28
c. 4.28
d. 5.9

Cognitive Domain: Reasoning	Content Domain: Physics

42. If you need to exert a 700 N force to push the refrigerator up the ramp with constant speed, what is the efficiency of the ramp?

a. 42.80%
b. 85.71%
c. 41%
d. 34%

Direction (for questions 43 to 45): Carefully read through the passage and answer the following questions.

Assessing the Environmental Impact of Conventional Energy Sources

In recent years, the environmental repercussions of conventional energy sources have become a focal point of scientific and policy discussions worldwide. Conventional energy, primarily derived from fossil fuels such as coal, oil, and natural gas, plays a dominant role in global energy production but also contributes significantly to environmental degradation.

The data presented in the table (given below) compares the emission rates of carbon dioxide (CO_2), sulphur dioxide (SO_2), and nitrogen oxides (NOx) from coal-fired power plants.

Furthermore, the impact on water resources is another critical aspect. The process of mining coal and oil extraction often leads to water pollution due to the release of hazardous chemicals into nearby water bodies.

The cumulative effects of these pollutants are profound, leading to issues like acid rain, smog, and significant contributions to global warming. As the demand for energy continues to rise, the environmental impacts associated with these conventional sources necessitate urgent scholarly and practical attention to mitigate their effects and transition to more sustainable energy solutions.

Pollutant	Emission Rate (kg per MWh)
CO_2	900
SO_2	4
NOx	2

Cognitive Domain: Knowing	Content Domain: Environmental Science

43. Which of the following best explains the environmental impact of sulphur dioxide and nitrogen oxides as outlined in the passage?

a. They lead to acid rain and smog, which harm ecosystems and human health.
b. They contribute to the depletion of the ozone layer.
c. They are primarily responsible for the thermal inversion in urban areas.
d. They increase the albedo of the atmosphere, leading to global cooling.

Cognitive Domain: Applying	Content Domain: Environmental Science

44. Analyse how the introduction of hazardous chemicals into aquatic ecosystems during mining alters the food web and nutrient cycles. What are the potential cascading effects on terrestrial ecosystems?

a. Disruption of aquatic food webs leads to reduced fish populations only, impacting animals reliant on these fish for food
b. Increased nutrients may lead to algal blooms, which can decrease oxygen levels and affect both aquatic and nearby terrestrial ecosystems
c. Chemical pollutants primarily affect only aquatic species, with minimal impact on terrestrial ecosystems

d. Enhanced growth of aquatic plants due to increased nutrients, improving the overall health of the ecosystem

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Cognitive Domain: Reasoning	Content Domain: Environmental Science

45. If a coal-fired power plant operates at full capacity, generating 1000 MWh of energy, how much CO_2 would it emit? What does this data imply about the scale of pollution from a single plant in a day?

a. 900 kg of CO_2; indicates minimal environmental impact
b. 9,000 kg of CO_2; suggests unmanageable pollution levels
c. 90,000 kg of CO_2; implies significant contribution to air pollution
d. 900,000 kg of CO_2; implies a critical level of pollution

Answer Key

1.	c	**2.**	c	**3.**	a	**4.**	c	**5.**	d	**6.**	a	**7.**	a
8.	d	**9.**	b	**10.**	a	**11.**	b	**12.**	b	**13.**	c	**14.**	c
15.	d	**16.**	b	**17.**	b	**18.**	c	**19.**	d	**20.**	b	**21.**	d
22.	a	**23.**	b	**24.**	c	**25.**	c	**26.**	d	**27.**	c	**28.**	a
29.	c	**30.**	c	**31.**	a	**32.**	d	**33.**	c	**34.**	d	**35.**	a
36.	a	**37.**	c	**38.**	a	**39.**	d	**40.**	d	**41.**	c	**42.**	b
43.	a	**44.**	b	**45.**	c								