

APOLLO

Matter

FBISE Chemistry Class 9 (SSC-I)

Domain B: Physical Chemistry

43 questions | questions

Original FBISE question crops. National Curriculum 2022-23 topic.

1.	Diamond is used in cutting tools. The reason for this use is:	It has a layered structure with weak van der Waals forces	It is a highly dense form of pure carbon	It has a strong three-dimensional network structure	It contains delocalized free electrons
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2.	Which of the following is a compound?	Air	Iron	Carbon dioxide	Brass
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3.	Which of the following combinations is correctly matched?	Sugar + Water → Suspension	Milk → Colloid	Sand + Water → Solution	Air → Suspension
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Scenario for MCQ (45-48)		Ali melts a piece of wax in a test tube by heating it in a water bath. After removing the heat source, he observes that the liquid wax slowly turns back into a solid.			
45.	What is the name of the process when liquid wax turns into a solid?	Condensation	Evaporation	Freezing	Melting

Scenario for MCQ (45-48)		Ali melts a piece of wax in a test tube by heating it in a water bath. After removing the heat source, he observes that the liquid wax slowly turns back into a solid.			
46.	Why is this change considered a physical change?	A new substance is formed	The chemical composition changes	The change is reversible and no new substance is formed	Heat is released permanently

Scenario for MCQ (45-48)		Ali melts a piece of wax in a test tube by heating it in a water bath. After removing the heat source, he observes that the liquid wax slowly turns back into a solid.			
47.	During this change, what happens to the particles of wax?	They break into new atoms	They become chemically different	They come closer together without changing identity	They disappear

Scenario for MCQ (45-48)		Ali melts a piece of wax in a test tube by heating it in a water bath. After removing the heat source, he observes that the liquid wax slowly turns back into a solid.			
48.	Which property remains unchanged during this process?	State	Shape	Chemical composition	Volume

Q1	A student notices that elements in the Periodic Table follow clear patterns in their size and reactivity instead of changing randomly.	3
	Write the names of Group-VII elements. Also, describe the trend in physical state and density of the Group VII elements as you move down the group.	

OR	State the difference between a compound and a mixture. In your answer, briefly describe the composition of each type of substance.	3

Q2	Compare the variation in reactivity of metals and non-metals using electron behavior.	3
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OR	Give in detail the process of electroplating to prevent metals from corrosion	3
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A young adult plans a balanced diet to maintain good health. Describe three main classes of biomolecules found in food by identifying their common sources along with the recommended daily intake for a young adult.	3
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Q3 A city shows a sudden rise in respiratory diseases and reduced visibility. Which pollutant is most likely responsible for it, also explain the mechanism by which it affects human health and the environment.	1+2	OR
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1.5 + 1.5	OR	Briefly describe the following properties of gas: گیس کی درج خصوصیات کی مختصر وضاحت کریں: a) Density ب) Fluidity گیس کی درج خصوصیات کی مختصر وضاحت کریں:	1.5 + 1.5
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(iii)	Briefly describe the following properties of solids: ٹھوس کی درج خصوصیات مختصر بیان کریں: a) Compressibility ب) Density کمپریمیبلٹی کثافت	03	OR	Identify the oxidizing and reducing agents in the following reaction: درج ری ایکشن میں آکسڈ ایجنٹ اور ریڈیوسنگ ایجنٹ کی شناخت کریں: $2KI + Cl_2 \longrightarrow 2KCl + I_2$	03
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Q.6	Compare colloid and suspension. Give one example of each.	2+2
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12.	Most compressible state of matter is: گیس درج شدہ میں سے کون سی حالت سب سے زیادہ کمپریمیبل ہے؟	Gas	Liquid	Solid	Plasma
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(iii)	What is meant by BEC? How are BECs formed? BEC سے کیا مراد ہے؟ BECs کیسے بنائے جاتے ہیں؟	1+2
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Q.6 Compare solutions and colloids. (Any three points)
Give one example of each.

سلوٹن اور کولائیڈ کا موازنہ کریں۔ (کوئی سے تین نکات) ہر ایک کی ایک مثال بھی دیں۔

3+1

First Annual 2026 | Section B Q2(ii) | 3 marks

refrigerator linked to depletion of ozone layer.

Why solids have high density and very low compressibility whereas gases have opposite behavior? Explain briefly.

1.5

+

1.5

First Annual 2026 | Section B Q2(iv) | 3 marks

Identify the given substances as solution, suspension or colloidal:

a. Air b. Sand in water c. Jelly

1+1

+1

OR

Brie

a.

b.

First Annual 2026 | Section B Q2(v) | 3 marks

a. Air b. Sand in water c. Jelly

What is meant by 'element'? State one distinguishing feature that separates it from mixtures.

2+1

OR

First Annual 2026 | Section B Q2(vii) | 3 marks

How is solubility affected by increasing temperature for given solutions:

a. KCl in water (endothermic solution)

b. $Ca(OH)_2$ in water (exothermic solution)

1.5

+

1.5

OR

$CuSO_4 \cdot 5H_2O_{(blue\ solid)} \rightleftharpoons CuSO_4_{(white\ solid)} + 5H_2O$
How heating will affect the equilibrium in given reaction?

03

Briefly state the trend of metallic character along the

1.5

Write chemical reaction when an acid reacts with

First Annual 2026 | Section A Q1 | 1 mark

Which state of matter is represented by air?

Solid

Liquid

Gas

Plasma

First Annual 2026 | Section A Q2 | 1 mark

Diamond and graphite are allotropic forms of:

Oxygen

Carbon

Silicon

Sulfur

First Annual 2026 | Section B Q2(i) OR | 3 marks

Differentiate between suspension and colloidal with one suitable example each.

1.5

+

1.5

First Annual 2026 | Section C Q3 | 6 marks

Q.3 Differentiate between compounds, and mixtures with respect to:

a. Composition

b. Chemical bonding

c. Separation methods

2+2

+2

Q.4 Show the ionic bond formation of following by using

1.5 + 1.5	OR	Briefly describe the compressibility of solids, liquids and gases with reason.	1+1 +1
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Q.3	Compare diamond and graphite in terms of their structure and properties.	3+3
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(xii)	Suggest which statement about solubility is INCORRECT ?	It refers to the ability of a solute to dissolve in a solvent	It is measured in grams per liter of solvent	It is affected by temperature, pressure, and the nature of the solute and solvent.	It is independent of temperature.
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(iii)	Compare following properties of liquid Crystals with liquids. a. Molecular arrangement b. Fluidity	1.5+1.5 5
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Q.5	Define solubility. How can it be affected by the change in temperature? Explain with graph.	1+2+3	OR
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How do following vary down the group? درج شدہ خصوصیات گروپ میں نیچے کی طرف کیسے تبدیل ہوتی ہیں؟	03	OR	Predict the solubility of following substances. درج شدہ مرکبات کی حل پذیری کی پیشین گوئی کریں۔
a. Atomic size b. Ionization energy c. Electronegativity			a. Methanol in water b. Oil in benzene c. Sodium chloride in water
Demarcate the modern periodic table into 's' and 'p'.			A flask contains 0.25 M NaOH solution. What mass

(ix)	Briefly explain any two allotropic forms of carbon. کاربن کی کوئی سی دو آلوٹروپک فارمز مختصر بیان کریں۔	03
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(viii)	Describe colloids and suspension with one suitable example of each. کلوئڈس اور سسپنشنز کو ایک مناسب مثال کے ساتھ بیان کریں۔	03
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Second Annual 2025 | Section B Q2(ii) | 3 marks

example each. نرم اور سخت دھاتوں میں فرق کریں اور ایک ایک مثال دیں۔	2+1	OR	Determine the oxidation number of nitrogen in NO_2^{-1} . میں نائٹروجن کی آکسائیڈیشن اسٹیٹ معلوم کریں۔	03
Briefly explain any three crystalline allotropes of carbon. کاربن کی کوئی سی تین کرسٹلائن صورتوں کی مختصر وضاحت کریں۔	1x3	OR	Find by calculation, the compound in which Sulphur (S) has oxidation state of +7. معلوم کریں کہ کس مرکب میں سلفر کی آکسائیڈیشن اسٹیٹ +7 ہے۔	03
			a. SO_3	

Second Annual 2025 | Section B Q2(vii) | 3 marks

(vii) Give at least two examples for the solutions of:	
a. Gases	
b. Liquids	
c. Solids	

Second Annual 2025 | Section C Q5 OR | 4 marks

Give at least two comparison points among solutions, colloids and suspensions. محلول، کولائیڈ اور سپینشن (suspension) کے موازنہ کے کم از کم دو نکات بیان کریں۔	2+2 +2
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First Annual 2026 | Section B Q2(ii) | 3 marks

Differentiate between Mixture and Compound. آمیزہ اور مرکب میں فرق بیان کریں۔	03
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First Annual 2026 | Section B Q2(viii) OR | 3 marks

OR	What is fluidity? Why liquids and gases are considered fluids while solids are not? روائی (Fluidity) سے کیا مراد ہے؟ وضاحت کریں کہ مائع اور گیسوں کو فلوئیڈ کہا جاتا ہے۔	1+2
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First Annual 2026 | Section C Q6 | 4 marks

Q.6	Give any four differences between colloids and suspensions.
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First Annual 2026 | Section A Q3 | 1 mark

Which solid has no regular arrangement of particles?	Crystalline	Metallic	Ionic	Amorphous
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First Annual 2026 | Section C Q6 | 4 marks

Q.6	Differentiate between saturated and super saturated solution. Give one example each.	2+2	OR
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