

APOLLO

Group Properties and Elements

FBISE Chemistry Class 9 (SSC-I)

Domain C: Inorganic Chemistry

25 questions | questions

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

10.	X and Y are diatomic elements. X is less reactive than Y. What are elements X and Y?	Chlorine and iodine	Fluorine and nitrogen	iodine and bromine	oxygen and nitrogen
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11.	Which pair of properties are both correct for a typical transition element?	Forms coloured compounds and soluble in water	High density and has variable oxidation states	Low density and high melting point	Low melting point and can act as a catalyst
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(ii)	Give any two displacement reactions of halogens. ہیلوجنز کے کوئی سے دو ڈسپلیمینٹ ری ایکشنز تحریر کریں۔	1.5 +	OR	Briefly describe the following properties of gas: گیس کی درجہ خصوصیات کی مختصر وضاحت کریں:	1.5 +
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(vi)	Enlist any three characteristics of transition elements. ٹرانزیشن عناصر کے کوئی سے تین خواص تحریر کریں۔	03	OR	What is meant by NPK fertilizers? Why are these fertilizers used? NPK کیسے کیے جاتے ہیں؟ ان کی ضرورت کیسے ہے؟	2+1
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Q.3	Compare given properties of metals and non-metals. میٹلز اور نان میٹلز کی درجہ شدہ خصوصیات کا موازنہ کریں: i Thermal conductivity حرمل کنڈکٹیوٹی ii Ductility ڈکٹیلٹی iii Melting point میلٹنگ پوائنٹ	2x3	OR	Draw electron dot and cross structures for the following: درجہ شدہ کے الیکٹران ڈاٹ اور کراس سٹرکچر بنائیں۔ a) NH_3 b) N_2 c) CH_4	2x3
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(vi)	Enlist any three uses of transition elements. ٹرانزیشن عناصر کے کوئی سے تین استعمالات لکھیں۔	03
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2.	The elements of _____ have one electron in their outer shell.	Group II	Group I	Group III	Group VII
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OR	Give any three differences between metals and non-metals. میٹلز اور نان میٹلز میں کوئی سے تین فرق تحریر کریں۔	1x3
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(vi)	What are halogens? State the general trends observed down this group in 'density' and 'reactivity'. ہیلوجنز کیا ہیں؟ اس گروپ میں نیچے جاتے ہوئے 'ڈینسٹی' اور 'ری ایکٹیوٹی' کے عمومی رجحانات بیان کریں۔	1x3
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Q.3	Electronic configuration of element X is given. Identify the possible group number, period number and likely name of this element. Compare the properties of this element with another element that is present below it in the same group. $1s^2, 2s^2, 2p^6, 3s^1$	1+1 +1 +3
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First Annual 2026 | Section A Q8 | 1 mark

Which trend is observed down the Group in Group I-A elements?	All become gases	Melting point increases	Reactivity decreases	Density increases
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First Annual 2026 | Section B Q2(ix) | 3 marks

(ix)	State the general trends observed down the group for elements of Group-I for their density, and reactivity.	1.5 + 1.5	OR
(x)	How are 'dissolved oxygen' and 'essential minerals'?	1.5	

First Annual 2026 | Section C Q5 | 6 marks

Compare metals and non-metals in terms of their:	
a. Thermal conductivity	2+2
b. Electrical conductivity	+2
c. Malleability and ductility	

First Annual 2026 | Section A Q7 | 1 mark

Which of the following relationships is INCORRECT regarding relative reactivity of Halogens for displacement reactions?	$F_2 > Cl_2$	$Br_2 > F_2$	$Br_2 > I_2$	$Cl_2 > Br_2$
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First Annual 2026 | Section B Q2(iii) OR | 3 marks

State the trend in melting point and density of Group I-A elements down the group.	1.5 + 1.5
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First Annual 2026 | Section B Q2(vii) OR | 3 marks

Complete the given displacement reactions of Halogens if they are possible:	
a. $Br_2 + 2KI \rightarrow$ c. $I_2 + 2KBr \rightarrow$	1x3
b. $F_2 + 2KCl \rightarrow$	

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

Complete the given displacement reactions if possible:	
a. $Cl_2 + 2KF \rightarrow$	1x3
b. $F_2 + 2KI \rightarrow$	
c. $Cl_2 + 2KBr \rightarrow$	

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

(vii)	What is meant by the thermal stability of hydrogen halides? Arrange HF, HCl, HBr, and HI in order of increasing thermal stability.	2+1
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Q.5	a. What is meant by exothermic reaction and endothermic reactions? b. Calculate the enthalpy change (ΔH) for given reaction. $H_{2(g)} + F_{2(g)} \rightarrow 2HF_{(g)}$ Bond energy values for H-H, F-F and H-F bonds are 436 kJ/mol, 155 kJ/mol and 567 kJ/mol.	(1.5 + 1.5) +3	OR	Explain in detail how the following properties change down a group in the periodic table for Group-IA elements: a. Atomic radius b. Reactivity Give reasons for each trend.	3+3
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(ii)	Predict reactions of Cl_2 with following halide ions. a. Br^{-1} b. I^{-1}	1+1+1
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(v)	Give three examples of transition metals where they act as catalysts.	1+1+1
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Question		Hydrides	Oxides	Sulphides	Halides
1.	Halogens react with metals to form: ہالوجنز دھاتوں کے ساتھ تعامل کر کے کیا تشکیل دیتے ہیں؟	ہائیڈرائڈز	آکسائیڈز	سلفائیڈز	ہالائیڈز

(i)	Differentiate between soft and hard metals with one example each. نرم اور سخت دھاتوں میں فرق کریں اور ایک ایک مثال دیں۔	2+1
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OR	Why Fluorine can oxidize and displace all other Halide ions? Give one example. فلورین دیگر ہالائیڈ آئنز کو کیوں آکسائیڈز اور ہالائیڈز سے تبدیل کر سکتی ہے؟ ایک مثال بھی دیں۔	03
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(vi)	Write any three properties of transition element. ٹرانزیشن عناصر کے کوئی سے تین خواص لکھیں۔	1x3
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