

HINTS & SOLUTION WORKBOOK-1

Classification of Elements & Periodicity in Properties

Daily Tutorial Sheet-12	Level-3
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139.(D) E.N. = $F > O > Cl > S$

140. I-B, II-H, III-A, IV-B, J, F, C, I, G, V-D, VI - I, VII - B, J, VIII - K,H,E, IX-G

(I) (B)	(II) (H)	(III) (A)	(IV) (B, C, F, J, I, G)
(V) (A)	(VI) (I)	(VII) (B, J)	(VIII) (E, H, K, L)
(IX) (G)			

141.(ACD) Statement (A), (B) and (C) are common to both the group 1 and 17. Statement (B) is true only for group 17 elements.

142.(ABC) A is $Fe (Z_1 = 26)$, according to their electronic configuration.

$$Z_1 - Z_2 = 2, \quad Z_1 = 26 (Fe = A)$$

$$26 - Z_2 = 2, \quad Z_2 = 24 (Cr = B)$$

$$\frac{26 + 24}{2} = Z_3 - 2, \quad Z_3 = 27 (Co = C)$$

(Here, n is unpaired electrons)

(A) $B^+ (n = 5) > A^{2+} (n = 4) > C^{2+} (n = 3)$

(B) $A^{3+} (n = 5) > B^{2+} (n = 4) > C (n = 3)$

(C) $B (n = 6) > A (n = 4) > C^{2+} (n = 3)$

(D) $B (n = 6) \neq A^{3+} (n = 5) > C^{3+} (n = 4)$

143.(C) $Mg^+ \quad Al^+ \quad Si^+$

$$3s^1 \quad 3s^2 \quad 3p^1$$

$$I.E. = Al^+ > Si^+ > Mg^+$$

144.(AB) Element X- phosphorus

(A) $n = 3$, period = 3; group no. = 15

(B) Valence shell contains $3e^-$ in p orbital.

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symmetrically arranged

(C) Incorrect $\rightarrow$ It has half filled valence shell

(D) Self explanatory.