

JEE MAIN D- AND F-BLOCK ELEMENTS — FORMATION OF COMPLEX COMPOUNDS, CATALYTIC PROPERTIES, INTERSTITIAL COMPOUNDS AND ALLOY FORMATION — PYQS

Max. Marks: 12
Questions: 3

Section A (MCQ) — 3 questions

Q.1 Given below are two statements for catalytic properties of transition metals.

Statement-I: First row transition metals which act as catalyst utilise their 3d electrons only for formation of bonds between reactant molecules and atoms on the surface of catalyst.

Statement-II: There is increase in the concentration of reactants on the surface of catalyst which strengthens the bonds in reacting molecules.

In the light of the above statements, choose the correct answer from the options given below :

[JEE Main 2026 (Online) 8th April Evening Shift]

- (1) Both Statement-I and Statement-II are correct
- (2) Both Statement-I and Statement-II are incorrect
- (3) Statement-I is correct but Statement-II is incorrect
- (4) Statement-I is incorrect but Statement-II is correct

Scan or tap for the full solution



Q.2 The correct statements among the following are :

- A. Basic vanadium oxide is used in the manufacture of H_2SO_4 .
- B. The spin-only magnetic moment value of the transition metal halide employed in Ziegler-Natta polymerization is 2.84 BM.
- C. The p-block metal compound employed in Ziegler-Natta polymerization has the metal in +3 oxidation state.
- D. The number of electrons present in the outer most 'd' orbital of metal halide employed in Wacker process is 8.

Choose the correct answer from the options given below :

[JEE Main 2026 (Online) 6th April Morning Shift]

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

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Q.3 Which of the following is NOT a physical or chemical characteristics of interstitial compounds?

[JEE Main 2026 (Online) 5th April Morning Shift]

- (1) They have high melting points, higher than those of pure metals.
- (2) They are very soft and ionic in nature.
- (3) They retain metallic conductivity.
- (4) They are chemically inert and usually non-stoichiometric.

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ANSWER KEY

Ques.	1	2	3								
Ans.	2	3	2								