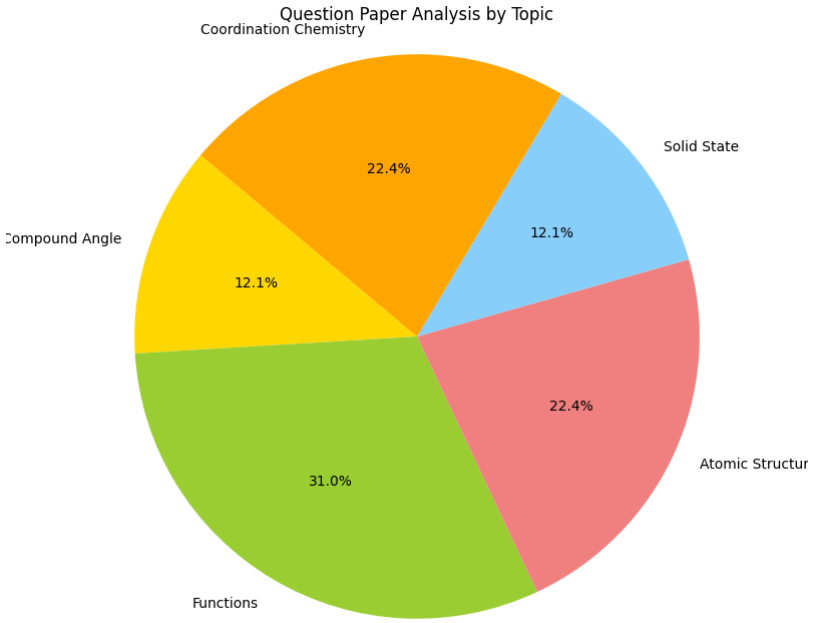
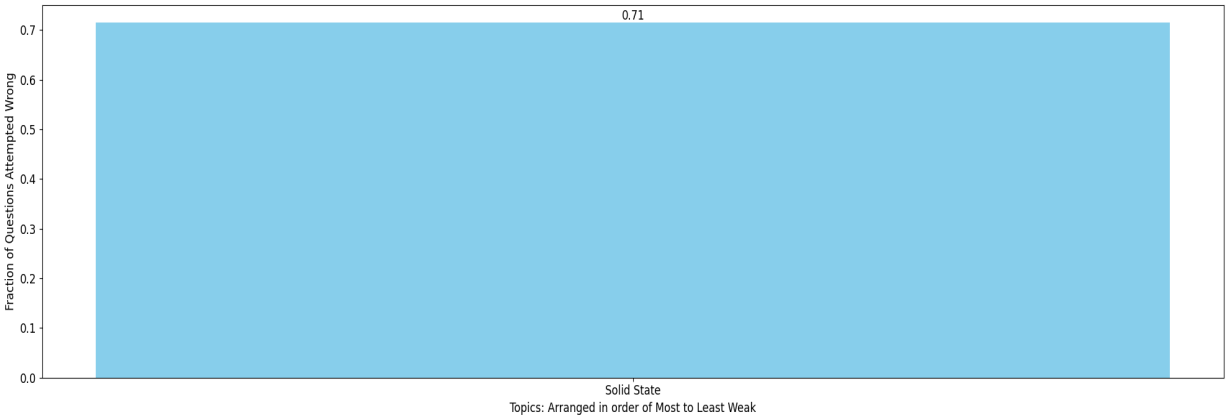
Shivam Sharma Total
MLAssist - Personalised DPP

Question Paper Analysis:



Weak Topic Analysis:



Practice Questions:

Solid State:

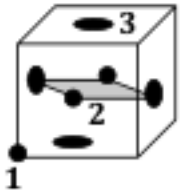
13. Iron crystallizes in several modifications. At about 910°C, the body-centered cubic '□' form undergoes a transition to the face-centered cubic '**γ**' form. Calculate the ratio of the density of □ iron to that of α iron at the transition temperature.

31. A non-stoichiometric compound Fe_7S_8 consist of iron in both Fe^{+2} and Fe^{+3} form and sulphur is present as sulphide ions. Calculate cation vacancies as a percentage of total cation in the sample.

9. Following figure shows an FCC unit cell with atoms of radius r marked 1(corner), 2(face center), 3(face center). A quadrilateral is also shown by joining the centers of 4 face centered atoms.

Find: (i) The distances between atoms 1 & 2, 2 & 3 and 1 & 3.

(ii) The shape and dimensions of the quadrilateral.



PROBLEMS BASED ON DENSITY

24. A substance A_xB_y crystallises in a FCC lattice in which atoms "A" occupy each corner of the cube and atoms "B" occupy the centres of each face of the cube. Identify the correct composition of the substance A_xB_y. **[JEE-2002]**

(A) AB_3 (B) A_4B_3

(C) A_3B (D) composition cannot be specified

5. Correct statement(s) for the packing of identical disc in two dimensions is/are:

(A) For square close packing, coordination number is 4.