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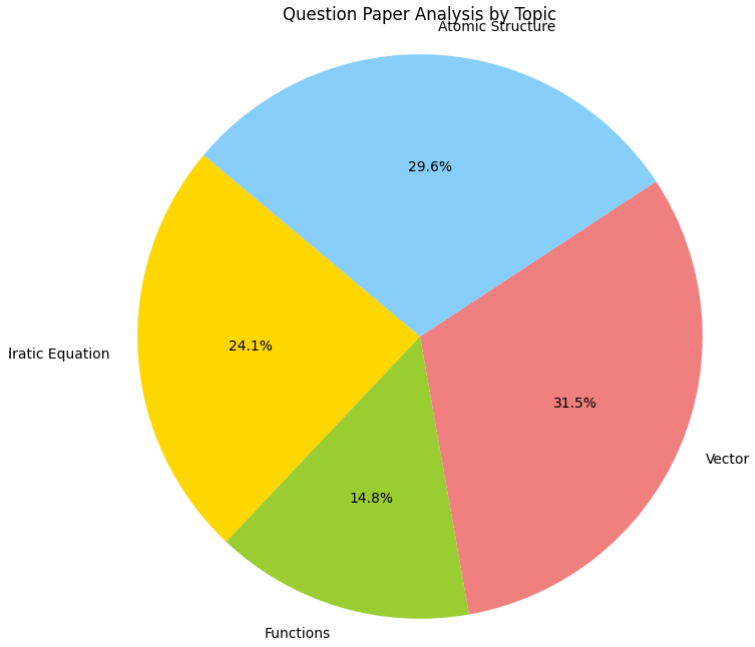
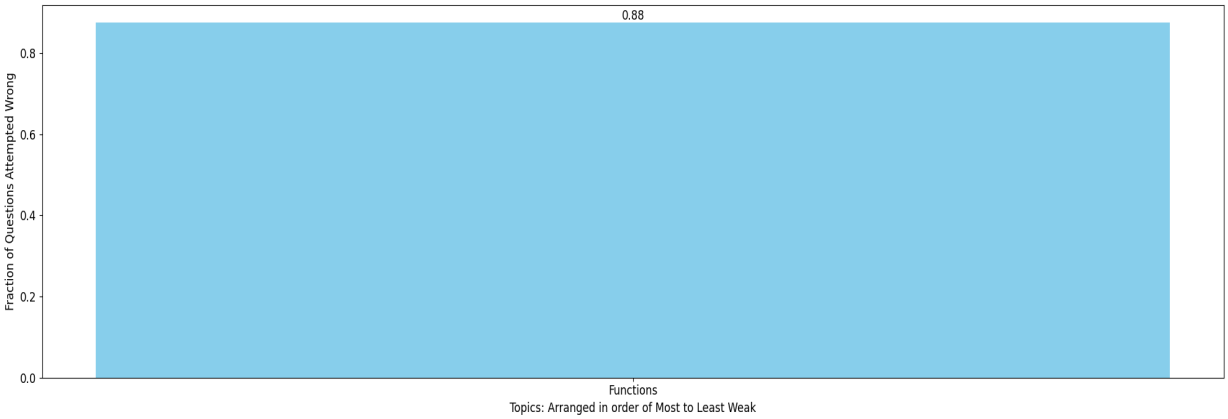
Question Paper Analysis:



Weak Topic Analysis:



Practice Questions:

Functions:

5. Let $f(x) = x^{135} + x^{125} - x^{115} + x^5 + 1$. If $f(x)$ is divided by $x^3 - x$ then the remainder is some function of x say $g(x)$. Find the value of $g(10)$.

22. If $g(x) = x^2 + x - 1$ and $(gof)(x) = 4x_2 - 10x + 5$, then $f\left(\frac{5}{4}\right)$ is equal to: **[JEE - Main 2020]**

(A) $-\frac{1}{2}$ (B) $\frac{3}{2}$ (C) $\frac{-3}{2}$ (D) $\frac{1}{2}$

$x[x]$

4. The value of $f(-89) - f(-67) + f(46)$ is equal to

(A) 4 (B) 5 (C) 6 (D) 7

MULTIPLE CORRECT TYPE

6. Let $f: A \to B$ and $g: B \to C$ be two functions and $gof: A \to C$ is defined. Then which of the following statement(s) is true?

(A) If gof is onto then f must be onto.

(B) If f is into and g is onto then gof must be onto function.

(C) If gof is one-one then g is not necessarily one-one.

(D) If f is injective and g is surjective then gof must be bijective mapping.

MULTIPLE CORRECT TYPE

$(x^2 - 4$ if $|x| < 3$

9. Let $f(x) = \left\lfloor \frac{1}{\cos\{x\}} \right\rfloor$ where $[y]$ and $\{y\}$ denote greatest integer and fractional part functions respectively and $g(x) = 2x^2 - 3x(k+1) + k(3k+1)$. If $g(f(x)) < 0 \forall x \in R$ then find the number of integral values of k.

$(1+x)$