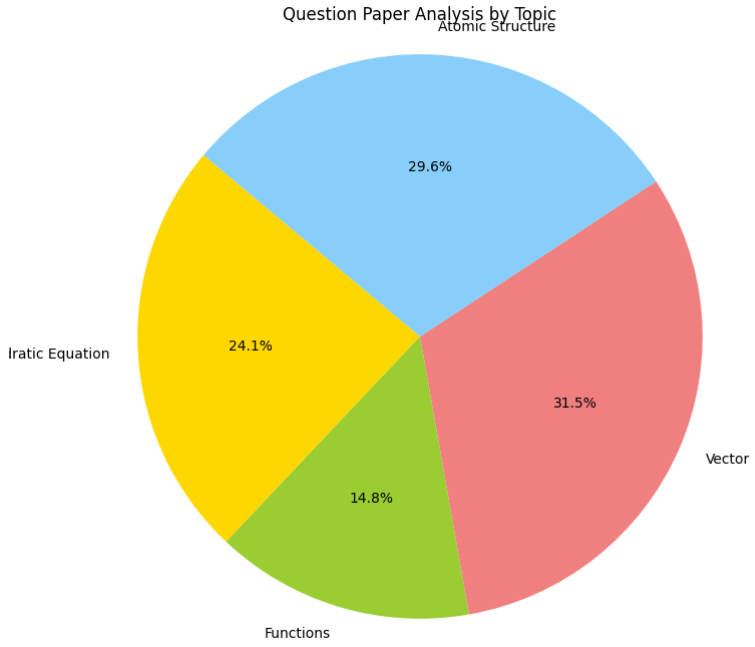
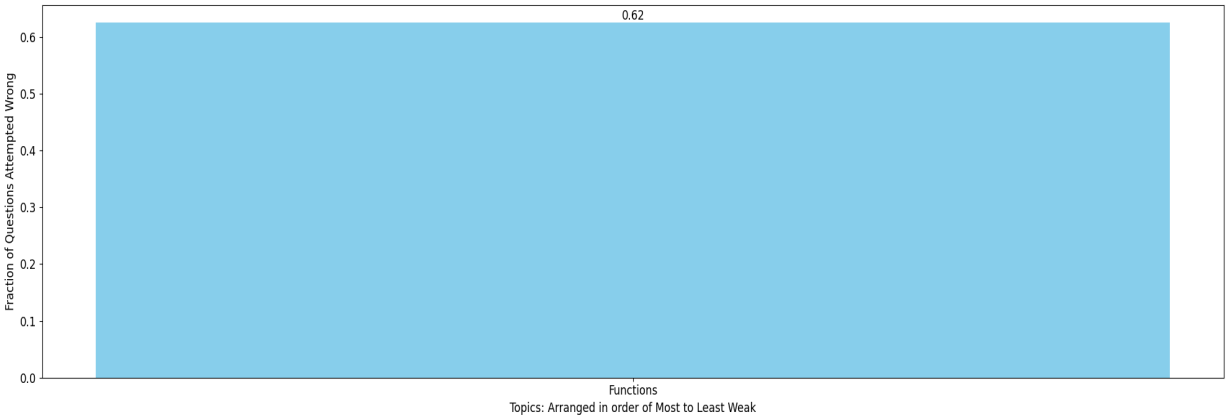
Kanav Miglani Total
MLAssist - Personalised DPP

Question Paper Analysis:



Weak Topic Analysis:



Practice Questions:

Functions:

4. If a polynomial function ' f ' satisfies the relation $\log_2(f(x)) = \log_2\left(2+\frac{2}{3}+\frac{2}{9}+\cdots\infty\right)$

$\log_3\left(1+\frac{f(x)}{f\left(\frac{1}{x}\right)}\right)$ and $f(10) = 1001$ then the value of $f(20)$ is

(A) 2002 (B) 7999 (C) 8001 (D) 16001

x^2+x+c [5 3]

6. Let $A = \{1,2,3,4\}$ and $B = \{1,2,3,4\}$. If $f: A \to B$ is an one-one function and $f(x) \neq x$ for all $x \in A$, then the number of such possible functions, is

(A) 6 (B) 9 (C) 24 (D) 44

1. Let

$$F(x) = \begin{cases} x|x| & \text{if} \quad x \leq -1 \\ [1+x]+[1-x] & \text{if} \quad -1 < x < 1 \\ -x|x| & \text{if} \quad x \geq 1 \end{cases}$$

where $[x]$ denotes the greatest integer function then $F(x)$ is

(A) even (B) odd

(C) neither odd nor even (D) even as well as odd

$\left(\quad\quad 1 \quad\quad -\right)^{\frac{1}{2}}$

21. Let $A = \{x \in R: x \text{ is not a positive integer }\}$. Define a function $f: A \to R$ as $f(x) = \frac{2x}{x-1}$, then f is

[JEE - Main 2019]

(A) injective but not surjective (B) not injective

(C) surjective but not injective (D) neither injective nor surjective

3. If the functions f(x) and g(x) are defined on R → R such that

$$f(x)=\begin{cases} x+3, & x \in \text{ rational} \\ 4x, & x \in \text{ irrational} \end{cases} \text{ and } g(x)=\begin{cases} x+\sqrt{5}, & x \in \text{ irrational} \\ -x, & x \in \text{ rational} \end{cases} \text{ then } (f-g)(x) \text{ is}$$

(A) one - one and onto

(B) neither one-one nor onto

(C) one-one but not onto

(D) onto but not one-one