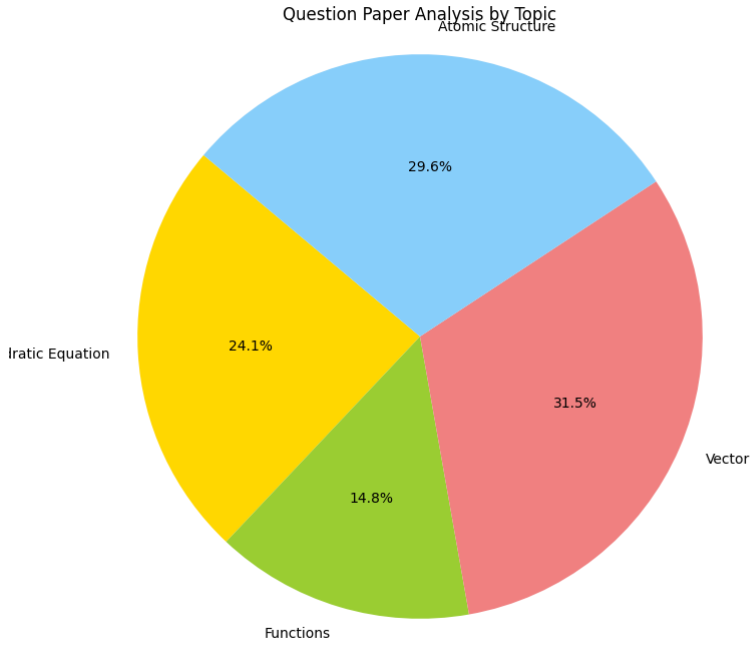
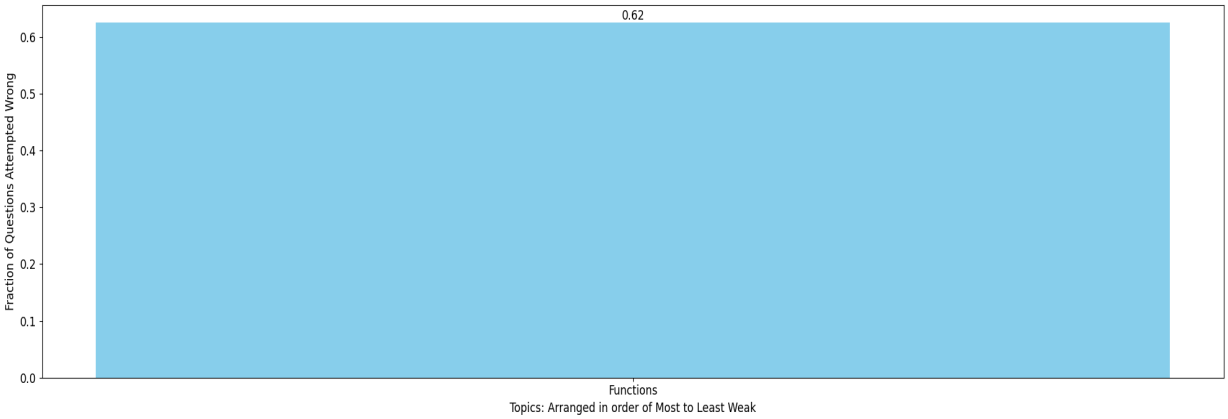
Muskan prashar Total
MLAssist - Personalised DPP

Question Paper Analysis:



Weak Topic Analysis:



Practice Questions:

Functions:

1. If $f(x) = 4x^3 - x^2 - 2x + 1$ and $g(x) = \begin{cases} \min\{f(t): 0 \le t \le x\} & ; 0 \le x \le 1 \\ 3 - x & ; 1 < x \le 2 \end{cases}$ then find the value of λ if $2\lambda = g(1/4) + g(3/4) + g(5/4)$

1. If the equation $(p^2 - 4)(p^2 - 9)x^3 + \left[\frac{p-2}{2}\right]x^2 + (p-4)(p^2 - 5p + 6)x + \{2p - 1\} = 0$ is satisfied by all values of x in $(0,3]$ then sum of all possible integral values of ' p ' is

(A) 0 (B) 5 (C) 9 (D) 10

1. (a) Let $P(x) = x^6 + ax^5 + bx^4 + cx^3 + dx^2 + ex + f$ be a polynomial such that $P(1) = 1; P(2) = 2; P(3) = 3; P(4) = 4; P(5) = 5$ and $P(6) = 6$ then find the value of $P(7)$.

(b) Let a and b be real numbers and let $f(x) = a\sin x + b\sqrt[3]{x} + 4, \forall x \in R$.

If $f\left(\log_{10}(\log_3 10)\right) = 5$ then find the value of $f\left(\log_{10}(\log_{10} 3)\right)$.

5. If $f(x) = |x + 2| + |2x - p| + |x - 2|$ attains its minimum value in the interval $(-1,1)$ then sum of all possible integral value of p is

(A) 0 (B) 1 (C) 3 (D) 4

PARAGRAPHBASED

Paragraph for question nos. 6&7

Let $f(x) = x^2 - 2x - 1 \forall x \in R$. Let $f: (-\infty, a] \to [b, \infty)$, where ' a ' is the largest real number for which f(x) is bijective.

7. Let $f: R \to R$, then range of values of k for which equation $f(|x|) = k$ has 4 distinct real roots is

(A) $(-2,-1)$ (B) $(-2,0)$ (C) $(-1,0)$ (D) $(0,1)$

MATHCH THE COLUMN

$$\begin{cases} 3(x+1)^{1/3}, & -2 \le x < 0 \\ -(x-1)^2 & 0 \le x < 1 \end{cases}$$