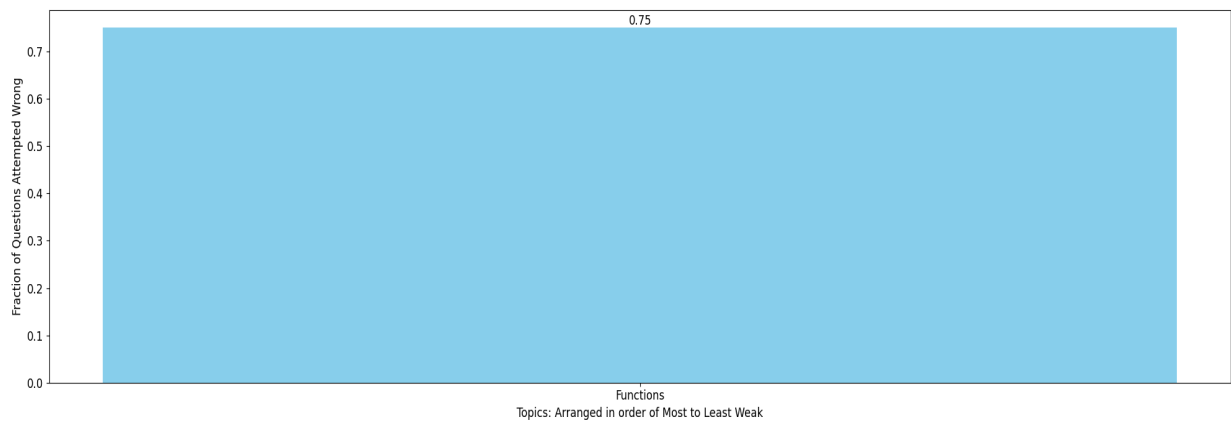


Stargazer\_ Total  
MLAssist - Personalised DPP

Question Paper Analysis:



Weak Topic Analysis:



### Practice Questions:

#### Functions:

4. Let  $f(x) = \begin{cases} 4 + x, & x \leq 0 \\ 4 - x, & x > 0 \end{cases}$   
If  $f(f(x)) = k$  has at least one solution, then smallest value of  $k$  is  
(A) 2 (B) 3 (C) 4 (D) 6
4. Let  $f: [0, a] \rightarrow S$  be a function defined by  $f(x) = 3\cos \frac{x}{a}$ . If the largest value of  $a$  for which  $f(x)$  has
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  $f(x) = x^2 - 2x - 1 \forall x \in \mathbb{R}$ . Let  $f: (-\infty, a] \rightarrow [b, \infty)$ , where 'a' is the largest real number for which  $f(x)$  is bijective.

3. The area bounded by the graph of  $f(x)$  and the x-axis from  $x = -1$  to  $x = 9$  is  
(A)  $\frac{31}{2}$  (B) 15 (C) 12 (D)  $\frac{15}{2}$
13. Let  $f(x)$  be a function such that  $f(x - 1) + f(x + 1) = \sqrt{3} f(x) \forall x \in \mathbb{R}$ . If  $f(5) = 100$ , then  $\sum_{r=0}^{49} f(5 + 12r)$
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