Wealth is a central symbol of capitalism and economic systems because it represents the rewards of individual effort, innovation, and competition, which are the core principles of capitalist economies. In these systems, wealth accumulation is seen as a reflection of success, productivity, and efficiency. Capitalism encourages individuals to maximize profit and economic gain, with wealth serving as both the incentive and the outcome. Those who acquire significant wealth are often viewed as having succeeded in navigating the competitive market, demonstrating entrepreneurial skill, and contributing to economic growth. Additionally, wealth acts as a measure of value in capitalist societies, where financial success is equated with personal merit, creating a system where material gain is the dominant marker of achievement and power.

1 Cultural and Societal Norms

Many societies, especially those rooted in capitalism, place a strong emphasis on financial success as a key indicator of achievement. From a young age, people are conditioned to believe that material prosperity is the ultimate goal. This narrative is reinforced by media, advertising, and cultural storytelling, where successful individuals are often depicted as those who have amassed wealth and possessions.

1.0.1 Historical Associations

Throughout history, wealth has been a symbol of power, prestige, and influence. Monarchs, landowners, and wealthy merchants were seen as the most successful members of society, often wielding significant political and social influence. This historical connection between wealth and status has persisted into modern times. Those with wealth are often perceived as having control, independence, and the ability to shape their own destinies. This long-standing tradition fuels the idea that financial achievement is the primary indicator of success.

Question 1 [10 Marks]

Researchers at the KDD Lab at FAST are studying the complex relationship between global warming and sea level rise. They have developed a sophisticated model that considers various factors including time, global average temperature anomalies, and atmospheric CO_2 concentrations. Their goal is to predict future sea level changes and inform policymakers about potential coastal impacts.

Using our latest model, your task is to calculate the predicted sea level rise given the following equation:

$$\Delta S(t,T,C) = A \cdot \log\left(1 + \frac{t}{\tau}\right) \cdot \left[\frac{\sin(\omega T) + 1}{2}\right] \cdot \left(\frac{C}{C_0}\right)^\alpha + B \cdot \left[\frac{\arctan\left(\frac{t-t_0}{\beta}\right)}{\pi} + \frac{1}{2}\right] \cdot \left(\frac{\tan^{-1}\left(\frac{T-T_0}{\gamma}\right) + \frac{\pi}{2}}{\pi}\right) \cdot \exp\left(\frac{C - C_0}{\delta}\right)$$

Where:

ΔS: Sea level rise (in meters)

t: Time (in years since 2000)

T: Global average temperature anomaly (in °C)

C: Atmospheric CO_2 concentration (in ppm)

Constants:

A = 0.1, B = 0.05

τ = 50, ω = 0.5, α = 1.5

β = 20, γ = 1, δ = 100

t_0 = 30, T_0 = 1, C_0 = 400

Use the cmath library in C++ for the trigonometric and logarithmic functions.

Figure 1: Caption

$$Distance : S = vt \tag{1}$$

Unordered list:

- This is first item.

- This is second item.

- This is third document.

Ordered list:

1. This is ordered item

2. This is 2nd ordered item