Stephenson, aged 55 and single, is a surgeon. Stephenson has accumulated a $2 million investment portfolio that has a large concentration in small capitalization US equities. Over the past 5 years, the portfolio has averaged 20% annual total return on investment. His newly hired advisor, Caroline Coppa, has compiled the following notes:

Stephenson hopes that, over the long term, his investment portfolio will continue to earn 20% annually. For the remainder of this year, he would like to earn a return greater than 5% yield to maturity currently available from short-term government notes. When asked about his risk tolerance, he described it as average. He was surprised when informed that US small cap portfolios have historically experienced extremely high volatility. He does not expect to retire before age 70. His current income is more than sufficient to meet his expenses. Upon retirement, he plans to sell his surgical practice and use the proceeds to purchase an annuity to cover his post-retirement cash flow needs. He could not state any additional long-term goals and needs. Both his income and realized capital gains are taxed at 30% rate. No pertinent legal or regulatory issues apply. He has no pension or retirement plan but does have sufficient health insurance for postretirement needs. Stephenson asks Coppa to draft an IPS based on their initial meeting.

A. Formulate the following elements of Stephenson's investment policy statement and justify your response for each element with 2 arguments: Return Requirements, Risk Tolerance (12 minutes)

B. Formulate the following elements of Stephenson's investment policy statement and justify your response for each element with 2 arguments: Liquidity, Time Horizon (8 minutes)

Stephenson's current portfolio of $2 million is invested as shown below

	Value	Percent of Total	Expected annual return	Annual standard deviation
Short term bonds	$200,000	10%	4,6%	1,6%
Domestic Large Cap Equities	$600,000	30%	12,4%	19,5%
Domestic Small Cap Equities	$1,200,000	60%	16,0%	29,9%
Total Portfolio	$2,000,000	100%	13,8%	23,1%

Stephenson soon expects to receive an additional $2 million and plans to invest the entire amount in an index fund that best complements the current portfolio. Coppa is evaluating the 4 index funds shown below for their ability to produce a portfolio that will meet the following 2 criteria relative to the current portfolio: maintain or enhance expected return and maintain or reduce volatility. Each fund is an asset class that is not substantially represented in the current portfolio.

Index fund	Expected annual return	Expected annual standard. Dev.	Correlation of return with current portfolio
Fund A	15%	25%	+0,80
Fund B	11%	22%	+0,60
Fund C	16%	25%	+0,90
Fund D	14%	22%	+0,65

C. State which fund Coppa should recommend. Justify your choice by describing how your chosen fund best meets both of Stephenson's criteria. No calculations are required. (12 minutes)

<h1 style="text-align: center;">SOLUTIONS</h1>

PART A Solution

Return Requirement. Stepehson's expressed desire for 20% average annual returns is unrealistic. Coppa should counsel him on what level of returns can reasonably be expected from the financial markets over long periods of time and to better define a return objective that is achievable. Nevertheless, Stephenson's circumstances warrant above average return objective that emphasizes capital appreciation. This formulation is justified by the following: Because Stephenson has a sizable asset base and ample income to cover his current spending, focus should be on growing the portfolio; His low liquidity needs and long time horizon support a long-term capital appreciation approach; He is in the consolidation phase of his life cycle and is not reliant on the portfolio to meet living expenses. Also, Stepheson stated that he wants a return in excess of 5% for the remainder of the year. This short-term goal needs to be considered to the extent possible, but should not be a significant factor in the policy statement, which focuses on client's long-term return objective

Risk Tolerance. Stephenson has above- average risk tolerance. This formulation is justified by the following: While Stephenson describes his risk tolerance as average, his present investment portfolio and his desire for large returns indicates a high willingness to take risk; His financial situation (large current asset base, ample income to cover expenses, lack of need for liquidity or cash flow, and long time horizon) indicates a high ability to assumes risk

PART B Solution

Liquidity. Stephenson's liquidity needs are low. This formulation is justified by following: Stephenson has no regular cash flow needs from portfolio because the income from his medical practice meets all current spending needs; No large, one-time cash needs are stated. However, it could be considered appropriate to keep a small cash reserve for emergencies.

Time horizon. Stephenson's time horizon is long-term and consists of 2 stages. This formulation is justified by the following: The first stage consists of the time until the retirement, which he expects to be 15 years; The second stage consists of his lifetime following retirement, which could range from 10 to 20 years.

PART C Solution

Fund D represents the single best addition to complement Stephenson's current portfolio, given his selection criteria. First, Fund D's expected return (14%) has the potential to increase the portfolio's return somewhat. Second, Fund D's relatively low correlation coefficient with his current portfolio (+0,65) indicates that it will provide larger diversification benefits that any of the other alternatives except Fund B. The result of adding Fund D should be a portfolio with about the same expected return and somewhat lower volatility compared to the original portfolio. The other three funds have shortcomings in either expected return enhancement or volatility reduction through diversification benefits:

Fund A offers the potential for increasing the portfolio's return, but is too highly correlated to provide substantial volatility reduction benefits through diversification

Fund B provides substantial volatility reduction through diversification benefits, but is expected to generate a return below the current portfolio's return

Fund C has the greatest potential to increase the portfolio's return, but is too highly correlated to provide substantial volatility reduction benefits through diversification.