SSEI
Sanjay Saraf Educational Institute Pvt. Ltd.
A positive NPV Training Center

CFA LEVEL 1

MARATHON SERIES

PORTFOLIO MANAGEMENT

Question 1:

Which of the following measures is the most appropriate for assessing the risk of an equity option contract in a portfolio?

A. Correlation coefficient

B. Sharpe ratio

C. Option delta

Solution:

C is correct.

The delta of an option is a measure of the sensitivity of the option price to changes in the price of the underlying asset. Delta is one of the key risk measures of an option contract, as it can be used to manage the risk of the option position. A delta of 1 indicates that the option price will change by the same amount as the change in the price of the underlying asset. A delta of 0.5 indicates that the option price will change by half as much as the change in the price of the underlying asset. A delta of 0 indicates that the option price will not change at all in response to a change in the price of the underlying asset.

(Choice A) The correlation coefficient measures the degree to which two variables move in relation to each other. While correlation may be useful in assessing the risk of a portfolio, it is not specific to option contracts.

(Choice B) The Sharpe ratio is a measure of the risk-adjusted return of an investment. While it may be useful in evaluating the performance of a portfolio, it is not specific to option contracts.

Note: The delta of an option is a key risk measure, as it reflects the sensitivity of the option price to changes in the price of the underlying asset

Derivative risk metrics: the Greeks	
Delta	Price sensitivity to *change* in the value of the *underlying asset*
Gamma	*Rate of change* in the derivative's *delta*
Rho	Price sensitivity to changes in *interest **r**ates*
Theta	Price sensitivity to changes in the passage of ***t**ime*
Vega	Price sensitivity to changes in ***v**olatility* in the underlying asset

Question 2:

According to portfolio theory, when combining two risky assets with less than perfect correlation, which of the following statements is true regarding the portfolio's risk characteristics?

A. The portfolio's risk can never be lower than the least risky asset in the portfolio.

B. A negative correlation between the two assets is required to achieve a reduction in portfolio risk.

C. The portfolio's risk is likely to be lower than the weighted average risk of the assets for a given level of return.

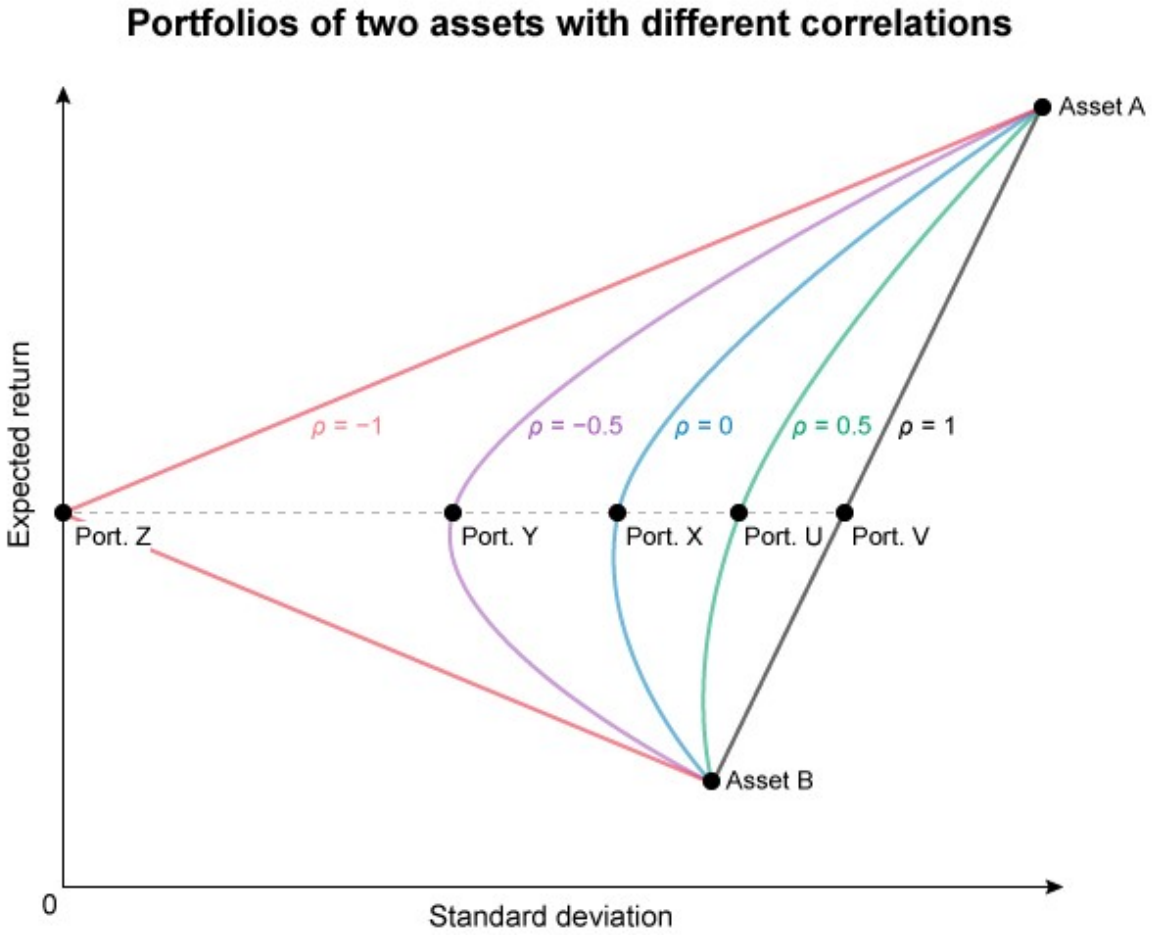
Solution:

C is correct.

According to portfolio theory, combining assets with less than perfect correlation can result in a reduction in portfolio risk. If the correlation between the two assets is less than one, the portfolio's risk will be lower than the weighted average risk of the assets for a given level of return. This occurs because the two assets' risks do not move in perfect tandem, and the combination of the two assets creates a diversification effect that results in a lower overall portfolio risk.

Choice A is incorrect because it is possible for the portfolio's risk to be lower than the risk of the least risky asset in the portfolio when the two assets are less than perfectly correlated.

Choice B is incorrect because a negative correlation is not required to achieve a reduction in portfolio risk. The only requirement is that the correlation between the two assets is less than one.



Question 3:

Which of the following statements regarding actively managed stock mutual funds is least likely accurate?

A. Actively managed funds charge higher fees than index funds

B. Actively managed funds typically have lower tax implications than index funds

C. Actively managed funds typically conduct more research and analysis in selecting securities and trade more frequently than index funds

Solution:

B is correct.

This question is testing the candidate's understanding of the characteristics of actively managed mutual funds. While active funds do typically charge higher fees than index funds (A), and conduct more research and trading (C), the statement that tax implications are lower in actively managed funds (B) is inaccurate. Actively managed funds tend to have higher turnover, resulting in higher capital gains distributions, and therefore higher tax implications compared to index funds, which typically have a lower turnover rate.

Question 4:

Which of the following statement is least likely to be true regarding the efficient frontier?

A. A risk-averse investor will only choose portfolios along the efficient frontier (in the absence of a risk-free asset).

B. Portfolios that deliver the greatest return on each level of standard deviation make up the efficient frontier.

C. The graphic that shows the efficient frontier has the variance on its Y-axis.

Solution:

C is correct.

The graphic that demonstrates the efficient frontier has the standard deviation at its X-axis and the return on its Y-axis.

Option A is a correct statement. A well-known fact is that "presumably, investors are risk-averse; hence, they will choose portfolios on the efficient frontier." Risk-averse investors can still be rational and will choose portfolios on the left-side portion of the curve. Less risk-averse (more risk neutral) investors will choose portfolios on the right of the curve. However, given this theory, all rational investors will choose portfolios on the curve.

Option B is a correct statement. Portfolios that deliver the greatest return on each level of standard deviation (or risk) make up the efficient frontier.

Question 5:

Sanjay Saraf buys one share of a stock priced at $400. One month after, he again buys one share of the same stock at $600. Worried that the market may experience a quick pullback, he sells each of his shares for $420 at the end of the 2nd month. Given that the stock paid a dividend of $24.00 at the end of the 1st month, then the time-weighted return of the investment is closest to:

A. 6.4%.

B. 9.2%.

C. 7.8%.

Solution:

B is correct.

Let's break down the cash flows per period (month)

Period 1

Beginning value - $400

Dividend paid = $24

Ending value = $600

Period 2

Beginning value = $600 × 2 = $1,200

Dividend paid = $0

Ending value = $420 × 2 = $840

Recall that the holding period return is the rate of return including dividends and interest realized on an investment. Dividends/interest (both of which are forms of asset income) are inflows and positively contribute toward the investment yield.

HPR = (Ending value - Beginning value + Asset income)/Beginning value

For period 1,

HPR = (600 - 400 + 24)/400 = 56% or 0.56

For period 2,

HPR = (840–1,200)/1,200 = -30% or -0.3

Time weighted return = (1 + 56%)(1 - 30%) - 1 = 9.2%

Question 6:

Which of the following is most likely false regarding Infotech's initial coin offering (ICO) to fund the production of high-tech drones?

A. Infotech will exchange newly issued digital tokens for fiat currency or other existing digital tokens.

B. Investors will be able to use digital tokens to purchase high-tech drones.

C. Most ICOs typically have attached voting rights.

Solution:

C is correct.

When a company engages in an initial coin offering (ICO), it issues new digital tokens in exchange for fiat currency or other digital tokens. This allows the company to obtain funding for its projects while also allowing investors to participate in the potential success of the company's future products or services through the use of the digital tokens. Most ICOs do not typically have attached voting rights.

Question 7:

Which technical analysis tool uses lines based on the standard deviation of closing prices over a specified number of periods?

A. Ichimoku clouds

B. Point and figure charts

C. Bollinger bands

Solution:

C is correct.

Bollinger bands are a popular technical analysis tool that use lines based on the standard deviation of closing prices over a specified number of periods to determine the upper and lower bands around a moving average. These bands can be used to identify potential support and resistance levels, as well as overbought and oversold conditions. Ichimoku clouds and point and figure charts are other technical analysis tools that use different methods to analyze price movements.

Question 8:

ABC Corporation is a manufacturing company that recently experienced a significant decrease in sales due to a global economic downturn. As a result, the company's management team is reviewing their enterprise risk management strategy to identify their risk tolerance level. Which of the following is the most appropriate risk tolerance definition from the enterprise risk management perspective?

A. Risk tolerance is the extent to which ABC Corporation is willing to accept losses and incur opportunity costs in pursuit of its strategic objectives.

B. Risk tolerance is the level of risk that ABC Corporation's investors are willing to accept in their investment portfolio.

C. Risk tolerance is the process of quantifying and allocating risk using specific metrics, such as value at risk (VaR).

Solution:

A is correct.

From the enterprise risk management perspective, risk tolerance is the extent to which ABC Corporation is willing to accept losses and incur opportunity costs in pursuit of its strategic objectives. In this case, the economic downturn has decreased the company's sales, which means that they need to assess their risk tolerance level and adjust their strategy accordingly.

Option B is incorrect because risk tolerance is specific to the organization and its objectives, not its investors.

Option C is incorrect because while quantifying and allocating risk is a part of risk management, it does not fully capture the concept of risk tolerance.

Question 9:

An asset management firm is developing a machine learning model to predict stock prices based on various market indicators. However, the model seems to be performing poorly and unable to recognize relationships within the training data. Which of the following best describes the issue with the model?

A. The model is overfitted.

B. The model is underfitted.

C. The model is mining the data for relationships.

Solution:

B is correct.

The issue with the machine learning model is that it is underfitted. An underfitted model treats true parameters as if they are noise and fails to recognize relationships within the training data. This is often caused by a model that is too simplistic or has insufficient complexity to accurately capture the underlying patterns in the data. Overfitting, on the other hand, occurs when a model is too complex and is able to fit the noise in the data as well as the underlying patterns, leading to poor performance on new data. Data mining, while not necessarily a problem, refers to the process of extracting useful information and patterns from large datasets, and is not directly related to the issue with the model's performance.

Question 10:

ABC Investment has been using the moving average convergence/divergence (MACD) indicator to trade stocks. They notice that the MACD line has just crossed below the signal line. What is the most appropriate action for ABC to take based on this signal?

A. Buy the stock

B. Sell the stock

C. Hold the stock

Solution:

B is correct.

When the MACD line crosses below the signal line, it is considered a sell signal. Therefore, ABC should sell the stock based on this signal. It is important to note that technical indicators, such as the MACD, are only one aspect of trading and should be used in conjunction with other methods of analysis.

Question 11:

The portfolio management process involves a series of steps that aim to create and manage a portfolio of investments. Which of the following statements is least likely accurate in the planning step of the portfolio management process?

A. Determination of investment objectives based on the investor's needs, goals, and constraints.

B. Selection of an appropriate benchmark to measure the performance of the portfolio.

C. Implementation of the chosen investment strategy through security analysis and selection.

Solution:

C is correct.

The planning step of the portfolio management process involves the determination of investment objectives based on the investor's needs, goals, and constraints, as well as the selection of an appropriate benchmark to measure the performance of the portfolio. The implementation of the chosen investment strategy through security analysis and selection occurs in the execution step of the process.

Therefore, option C is least likely accurate.

Question 12:

Which is an incorrect statement regarding Mutual Funds?

A. Closed-end equity funds will hold no cash.

B. Open-ended equity funds may trade at premiums or discounts to NAV.

C. Shares of closed-end funds are neither created nor redeemed, but rather trade between buyers and sellers.

Solution:

B is correct.

The fund can be set up as an open-end fund or a closed-end fund. If it is an open-end fund, it will accept new investment money and issue additional shares at a value equal to the net asset value of the fund at the time of investment. As such, an open-ended fund will not trade at premiums or discounts to NAV.

Option A is incorrect. Since closed-end funds don't need to redeem shares, they do not have to hold cash for that purpose. One consequence of the open-ended structure is the need to liquidate assets that the portfolio manager might not want to sell at the time to meet redemptions. Conversely, the inflows require finding new assets in which to invest. As such, open-end funds tend not to be fully invested but rather keep some cash for redemptions not covered by new investments.

Option C is incorrect. An alternative to setting the fund up as an open-end fund would be to create a closed-end fund in which no new investment money is accepted into the fund. New investors invest by buying existing shares, and investors in the fund liquidate by selling their shares to other investors.