2007 December CFA Level 1 – Sample Exam 4 Answers

Q5. A Study Sessions 1-2-a

According to Standard V (C) Investment Analysis, Recommendations, and Actions: Record Retention, members must maintain appropriate records in either electronic or hard copy form for a minimum of seven years. The Standards do not require on-site storage.

Q6. B Study Sessions 1-2-a

According to Standard IV (C) Duties to Employers: Responsibilities of Supervisors, members must make reasonable efforts to detect and prevent violations of applicable laws, rules, regulations, and the Code and Standards. Supervisors must disseminate the contents of the program to appropriate personnel. It is unnecessary to disseminate the contents of the program to all employees.

Q7. A Study Session 1-2-a

Once a supervisor learns that an employee has violated or may have violated the Code and Standards, the supervisor must promptly initiate an investigation to ascertain the extent of the wrongdoing.

Q11 B Study Session 2-7-h

The Sharpe ratio measures excess return per unit of risk; portfolios with different means and standard deviations can be meaningfully compared.

Q12. B. Study Session 3-10-g

An unbiased estimator is efficient if no other unbiased estimator of the same parameter has a sampling distribution with smaller variance.

Q13. D Study Session 2-8-b

A subjective probability draws on personal judgment and can vary from person to person.

Q14. C Study Session 2-8-e,f

The probability that one of these events will occur:

$0.6+0.2-(0.6\times0.2)=0.68$, or 68%

Q16. C Study Session 2-5-d

The present value of the $2,500,000 required in eight years compounded at 7 percent is approximately $1,455,023; the portfolio currently is below that amount by approximately $255,000. The minimum annual contribution that must be made at the beginning of the year (annuity due) over the next eight years is closest to $39,914

Q19. B Study Session 5-25-b,c

In the short run, a decline in the interest rate increases expenditure, the real GDP and the price level.

Q20. D Study Session 5-21-b

At low wage rates, an increase in the wage rate will induce a worker to work longer hours, leading to the substitution effect and an increase in the quantity of labor supplied.

Q24. C Study Session 8-38-c

(1-35%)(200,000/1,000,000)=13.0%

Q25. C Study Session 8-35-a,c

The current ratio includes inventory but the quick ratio does not. The quick ratio includes accounts receivable but the cash ratio does not. The denominator for all three ratios is current liabilities, which are the same proportion for both the company and the industry. The difference in ratios is therefore created by inventory and accounts receivable. The company has the higher percentage of inventory because the difference between the current ratio and quick ratio is greater for the company. The industry had the higher percentage of accounts receivable because the difference between the quick ratio and the cash ratio is greater for the industry.

Q26. B Study Session 8-38-a

Inventory is a balance-sheet account and the common-size percentage should be computed as a percentage of the total assets for that company.

Q27. D Study Session 9-41-c

Depreciation is a process of allocation of the cost of a plant asset to the periods that benefit from the asset.

Q28. D Study Session 7-37-a

The five factors are: legal system, taxation, providers of financing, inflation, and political and economic ties.

Q29. C. Study Session 8-38-d

In 2003, financial leverage ratio is 0.168/0.105=1.6 and in 2004, financial ratio is 0.18/0.10=1.8, an increase of 0.2%. In 2003, asset turnover ratio=0.105/0.042=2.5 and in 2004, asset turnover ratio=0.10/0.04=2.5, which is unchanged.

Q30. B Study Session 9-42-a

Because the costs of capitalized assets are carried as assets on a firm's balance sheet, capitalizing firms report higher assets and equity balances, which would decrease the debt-to-equity ratio. Firms that expense the costs of long-lives assets include these expenditures in cash flow from operations. Firm that capitalize these costs include these expenditures in cash flow from investing.

Q31 A. Study Session 10-44-d

Tax credits directly reduce taxes payable.

Q32. B. Study Session 10-45-a

If a bond is issued at a premium the market rate is lower than the coupon rate. The interest expense is equal to the liability, including any unamortized premium, multiplied by the (lower) market rate when the bond was issued; the coupon payment will always be higher than the interest expense. Cash flow from operations (CFO) will be understated because the (higher) coupon payments (interest expense plus change in liability) are include in CFO.

Q33. D. Study Session10-46-b

With an operation lease, the entire rental payment reduces cash flow from operations each year of the lease. If the lease is capitalized, interest reduces cash flow form operations but the interest portion declines over time as the liability is reduced. The combination of interest and depreciation expense will be less than the rental payment in the last year of the lease, so net income, cash flow from operations, and return on equity will be higher for a capitalized lease.

Q34. A. Study Session 9-40-a,b

During periods of rising prices and increasing inventories, the use of LIFO will result in higher COGS, reducing the reported income. This lower reported income will reduce taxes and increase cash flows.

Q35 B Study Session 11-49-a

The greater the fixed costs relative to the variable costs, the greater the operating risk or operating leverage.

Q36. B. Study Session 11-47-e

For a project with normal cash flows, the NPV profile intersects the vertical axis at the point where the discount rate is zero.

Q38. A Study Session 9-50-g

It is the tax treatment of dividends that may impact the company's dividend policy decision, not the tax rate of the corporation. For example, if dividends were taxed at a lower rate than capital gains, there may be an incentive for companies to increase dividend payouts.

Q40. A Study Session 14-61-d

The Herfindahl index measures the level of industry concentration using the sum of the squared market shares of the firms in the industry. The lower the index, the higher the industry risk because the competitive pressure is higher and there is less likelihood of cooperation. The equivalent number of firms in the industry is the reciprocal of the Herfindahl index; as the index decreases, the reciprocal will increase.

Q41. B Study Session 14-59-e

The nominal risk-free rate of return includes both the risk-free rate of return and the expected rate of inflation. A decrease in inflation expectations would decrease the nominal risk-free rate of return, but would have no effect on the real risk-free rate of return.

Q42. C. Study Session 13-55-h

Determine the price (P) that is equal to 25 percent: (200P-4200)/200P=0.25, P=$28.00

Q43. B Study Session 14-59-c

The holding period is two years. The value of the stock.

$$\frac{2(\$1.08)}{(1.11)}+\frac{2(\$1.08)^2}{(1.11)^2}+\frac{\$75}{(1.11)^2}=\$64.71$$

Q44. D Study Session 14-64-a,b

The book value of common equity is $325-40 in preferred stock+ an inventory adjustment of 27 for adjusted common equity of $312 million. The inventory adjustment must be tax affected because although cost of goods sold would be reduced by $45 million only (1-T) or 60% would be added to retained earnings.

The price to book rate is $59/$31.20=1.89.

Q45. C Study Session 14-63-c

The CBOE Put-Call ratio is widely used by technicians as a contrary opinion rule. When the put-call ratio is low, it is indicative of a bullish attitude for investors and therefore technicians take it as a bearish signal.

Q46 B Study Session 17-78-b

The put cost is $4 and the unprotected loss on the stock is $10. The loss for the investor is $14.

Q47. A Study Session 17-76-1

Higher volatility increases call and put option prices because it increases both the possible upside and downside values of the underlying.

Q48. C Study Session 17-75-d

The initial margin required was $5×10 contracts or $50. A loss of $3 per contract on Day 1 would deplete the margin to $20.Because $20 is below the required maintenance margin of $30,the investor must deposit enough to bring the balance back to $50.The investor must deposit $30 on Day 2.

Q53 A Study Session16-72-d

Effective duration and effective convexity consider the effect of changes in expected cash flows as yields change; modified duration and modified convexity assume that expected cash flows do not change as yield change.

Q54. D. Study Session 16-71-b

Present value =$960 Future value =$1,050 Payment=$50 n=6 i=6.5344×2=13.1%

Q55 C Study Session 15-68-g; 16-71-f,g

The longer the deferral period, the lower the value of the call option; the nominal spread and option adjusted spread will be closer the longer the deferment period

Q56. C Study Session 16-72-f

The total estimated price change for the bond is composed of the estimation based on the duration and the estimation based on the convexity adjustment. An option-free bond will exhibit positive convexity (gains will be greater than losses given a change in yields) making the reduction in price less than that implied by duration alone.

Q57. D Study Session 16-71-h

$$\left(\frac{(1+0.059/2)^6}{(1+0.0445/2)^2}\right)^{(1/4)} = 0.03314$$

The forward rate on a BEY basis is 0.03314×2=0.06628

Q58. C Study Session 12-54-f

Beta is the covariance of an asset with the market portfolio divided by the variance of the market portfolio. The variance of the market portfolio is the same for all assets, so if the covariance with the market portfolio is the same, the assets must have the same beta (amount of systematic risk), should plot at the same place on the SML, and have the same required rate of return. If the estimated rates of return for the two assets are different, at least one of them is not properly valued and will not plot on the SML.

Q59. B Study Session 12-52-c

Investors with short time horizons generally have a greater need for liquidity and lower risk tolerance because they have less time to recover form any performance shortfalls. Capital appreciation is an aggressive strategy that would not be appropriate.

Q60. A Study Session 12-53-f

The Markowitz formula for the standard deviation of a portfolio does not require any information about the market portfolio.