## Answers



## 1 CFA I Final Mock Exam: Ethical and Professional Standards

| 1 | C | 18461 |
| :---: | :---: | :---: |
|  | Rule of thumb: apply the higher of the local rules or the Code and Standards. |  |
| 2 | A | 18462 |
|  | This information is inside, but it does not relate to a tender offer, it has not been procured in any way and we owe no obligation of confidentiality. We may trade on the information, and should do so if it is in our clients' best interests. The only doubt would be if this information alone is not strong enough to form a basis of judgement but that is not an option here. |  |
| 3 | B | 18463 |
|  | Expectations of passes are not passes. |  |
| 4 | B | 18464 |
|  | You are only a candidate for the next level once enrolled. |  |
| 5 | B | 18465 |
|  | Work from internal sources need not be specifically reference. Models should be referenced, even if tweaked. |  |
| 6 | A | 18466 |
|  | Professor Smith is not a recognised source of information so his work should be specifically referenced. Jane is a colleague so reference need not be made to her work. |  |
| 7 | B | 18467 |
|  | The member must apply the stricter of the applicable law and the Code and Standards. |  |
| 8 | D | 18468 |
|  | There are others on the list: prospects, employers, employees and fellow members. |  |
| 9 | D | 18469 |
|  | A, B and $C$ are not part of the Code of Ethics. |  |
| 10 | C | 18471 |
|  | It would be expected that Conrad should inform clients that he is leaving, and it is proper that he should state that he cannot discuss what he is leaving to do. |  |
| 11 | B | 18477 |
|  | In dealing with clients there is no need to draw specific reference to the fact some work was done by colleagues within the firm. When giving expert evidence to a court a person represents themselves and not the firm and should therefore make clear any work that is not their own. |  |
| 12 | D | 18478 |
|  | The Code and Standards is realistic in appreciating that while option A is heroic, D is more sensible. |  |
| 13 | B | 18479 |
|  | The immediate supervisor should be informed in writing. A copy of the Code and Standards would need to be presented only if the employer does not already have one. The existence of other colleagues taking CFA exams does not remove her obligations. |  |
| 14 | A | 18480 |
|  | Written consent of new employer, written notification to existing clients ( and prospective clients). |  |


| $\mathbf{1 5}$ | D |  |
| :--- | :--- | :--- |
|  | It is definitely a breach. Whether the trade would be profitable or not is irrelevant as the <br> avoiding the appearance of impropriety is as important as avoiding an improper profit. | 18481 |
| $\mathbf{1 6}$ | D |  |
|  | All compensation from outside sources should be disclosed. | 18482 |
| $\mathbf{1 7}$ | D |  |
|  | The opinions of another analyst should not outweigh your own thorough research. | 18492 |
| $\mathbf{1 8}$ | B |  |
|  | Crawling around on the floor to hear better is almost certainly 'misappropriation', similar <br> to 'sneaking a peek' at a document. | 18493 |
|  |  |  |

## 2 CFA I Final Mock Exam: Quantitative Methods

| $\mathbf{1 9}$ | A |
| :--- | :--- |
|  | The p-value is the smallest value of alpha for which the null hypothesis is rejected. |
| If the p-value is greater than or equal to the significance level, the null hypothesis is not |  |
| rejected. |  |
| If the p-value is smaller than the significance level, the null hypothesis is rejected. |  |
| As the p-value in this question is 0.13 , the null hypothesis is not rejected at the $5 \%$ or |  |
| 10\% significance level. |  |$\quad 17932$


| 28 | D | 17941 |
| :---: | :---: | :---: |
|  | A negative correlation coefficient means that the variables move in the opposite direction. |  |
|  | Coefficient of determination is correlation coefficient ${ }^{\wedge} 2=-0.7^{\wedge} 2=0.49$ |  |
| 29 | C | 17942 |
|  | Expected return $=(0.5 \times 12)+(0.4 \times-5)+(0.1 \times 1)=4.1 \%$ |  |
|  | Variance = |  |
|  | $0.5(12-4.1)^{\wedge} 2+0.4(-5-4.1)^{\wedge} 2+0.1(1-4.1)^{\wedge} 2=65.29$ |  |
|  | Standard deviation $=$ variance ${ }^{\wedge} 1 / 2=8.08 \%$ |  |
| 30 | D | 17943 |
|  | Slope coefficients being negative are not a disadvantage of regression analysis, it merely means that the regression line is downward sloping. |  |
| 31 | C | 17944 |
|  | The F-test uses the regression sum of squares, not the mean regression sum. |  |
| 32 | A | 17945 |
|  | Outliers are observations that would significantly reduce what would otherwise be a high correlation. |  |

## 3 CFA I Final Mock Exam: Economics

| 33 | B | 18220 |
| :---: | :---: | :---: |
|  | Classicists argue that changes to aggregate demand do not affect the actual level of output. |  |
| 34 | B | 18222 |
|  | Increase spending and decrease tax, ie run a fiscal deficit. |  |
| 35 | D | 18224 |
|  | Neo classicists believe that discretionary fiscal policy is futile. |  |
| 36 | A | 18226 |
|  | 10\% of the deposit amount. |  |
| 37 | D | 18228 |
|  | The hoarding of money can reduce the multiplier, as would banks maintaining reserves above (not below) the minimum required. |  |
| 38 | D | 18229 |
|  | A, B and C are all potential problems. |  |
| 39 | B | 18230 |
|  | In the short term there is a small increase in prices and interest rates drop. |  |
| 40 | C | 18232 |
|  | The result is the same as the long run effect or the effect if fully anticipated. |  |
| 41 | C | 18234 |
|  | In the long run people realise that more money just means higher prices. Nothing has fundamentally affected production. |  |
| 42 | A | 18236 |
|  | By the 1970's most economists suggested that there was no long term trade off between inflation and unemployment as periods of high inflation (when labour was cheap) would be followed by renegotiation of employment contracts. |  |
| 43 | D | 18288 |
|  | Indifference curves are downward sloping due to the availability of substitutes. |  |
| 44 | C | 18290 |
|  | Perfect competition: large number of firms, identical products, no barriers to entry/exit. |  |

## 4 CFA I Final Mock Exam:

 Financial Statements and Corporate Finance| 45 | B | 17996 |
| :---: | :---: | :---: |
|  | Because the preference stock is cumulative basic EPS is calculated assuming a preference dividend had been paid, even though it had not. Therefore the calculation is (100,000-2,400)/200,000. |  |
| 46 | C | 17997 |
|  | Basic EPS is ( $150,000-2,400$ )/200,000. Diluted EPS is ( $150,000-2400+10,000$ ( $1-$ $40 \%) /(200,000+2,000)=0.7604$. But this would be anti-dilutive so the basic EPS figure stands. |  |
| 47 | C | 17998 |
|  | $\begin{aligned} & 2002 \mathrm{ROE}=0.1 \times 2 \times 1.5=0.3 \\ & 2003 \mathrm{ROE}=0.12 \times 1.5 \times 1.2=0.216 \end{aligned}$ |  |
| 48 | A | 17999 |
|  | $\begin{aligned} & 2002 \mathrm{ROE}=0.05 \times 2 \times 1.5=0.15 \\ & 2003 \mathrm{ROE}=0.12 \times 1.5 \times 1.2=0.216 \end{aligned}$ |  |
| 49 | A | 18000 |
|  | $\begin{aligned} & 2002 \mathrm{ROE}=((0.15 \times 1.2)-0.1) \times 1.4 \times 0.7=0.0784 \\ & 2003 \mathrm{ROE}=((0.16 \times 1.2)-0.11) \times 1.5 \times 0.7=0.0861 \end{aligned}$ |  |
| 50 | C | 18001 |
|  | $\begin{aligned} & 2002 \text { ROE }=((0.15 \times 1.2)-0.10) \times 1.4 \times 0.7=0.0784 \\ & 2003 \text { ROE }=((0.16 \times 1.2)-0.13) \times 1.5 \times 0.7=0.0651 \end{aligned}$ <br> There is an increase in leverage at a higher interest rate as well. |  |
| 51 | D | 18002 |
|  | $\begin{aligned} & 2002 \mathrm{ROE}=((0.13 \times 1.3)-0.11) \times 1.4 \times 0.7=0.05782 \\ & 2003 \mathrm{ROE}=((0.16 \times 1.2)-0.11) \times 1.4 \times 1.2=0.08036 \end{aligned}$ |  |
| 52 | D | 18012 |
|  | ```Cash conversion cycle 2002 = 365 x ((200/400) +(150/1000) - (150/400)) = 100.4 days Cash conversion cycle 2003=365\times((420/1500)+(370/2300)-(240/1500))=102.5 days Inventory turnover 2002=400/200 = 2x Inventory turnover 2003 = 1500/420=3.57x``` |  |
| 53 | C | 18013 |
|  | Cash conversion cycle $2002=365 \times((300 / 600)+(250 / 2000)-(250 / 600))=76$ days <br> Cash conversion cycle 2003 $=365 \times((220 / 1500)+(170 / 1800)-(240 / 1500))=29.6$ days <br> Inventory turnover 2002 $=600 / 300=2 x$ <br> Inventory turnover 2003 $=1500 / 220=6.8 \mathrm{x}$ |  |
| 54 | D | 18014 |
|  | Cash conversion cycle $2002=365 \times((200 / 550)+(150 / 1000)-(250 / 550))=21.6$ days <br> Cash conversion cycle 2003 $=365 \times((220 / 1500)+(180 / 1800)-(240 / 1500))=31.6$ days <br> Receivables processing 2002 $=1000 / 150=6.7 \mathrm{x}$ <br> Receivables processing 2003 $=1800 / 180=10 x$ |  |
| 55 | B | 18015 |
|  | Installment sales recognizes revenue each year equal to receipts and costs as a proportion of receipts to total billings. |  |


| 56 | D | 18016 |
| :---: | :---: | :---: |
|  | This treatment is only appropriate if there is an impact on existing assets. |  |
| 57 | B | 18017 |
|  | Timing expenditure is an example of intertemporal smoothing. |  |
| 58 | C | 18018 |
|  | Earnings volatility is lower as earnings are recognized throughout the contract life. Liabilities are lower as actual billings may represent earnings rather than giving rise to liabilities. |  |
| 59 | C | 18019 |
|  | Cash flows are unaffected by the method used, liabilities are lower under the percentage of completion method as there are fewer unearned billings. |  |
| 60 | C | 18021 |
|  | Cash receipts create customer advances (a liability) and cash payments create inventory. |  |
| 61 | D | 18022 |
|  | Income is not covered by investing cash flow, it is CFO. |  |
| 62 | D | 18023 |
|  | Dividend and interest receipts are both CFO. Note, interest payments are CFO but dividend payments are CFF. |  |
| 63 | C | 18024 |
|  | Reduction of debt is an outflow for CFF. |  |
| 64 | B | 18025 |
|  | $\begin{aligned} & \$ 98,000-\text { book value of sold item - depn }+ \text { Purchases }=\$ 105,000 \\ & \$ 98,000-\$ 2,000-\$ 10,000+\text { Purchases }=\$ 105,000 \end{aligned}$ |  |
| 65 | C | 18026 |
|  | $\begin{aligned} & \$ 108,000-\text { book value of sold item }- \text { depn }+ \text { Purchases }=\$ 105,000 \\ & \$ 108,000-\$ 4,000-\$ 10,000+\text { Purchases }=\$ 105,000 \end{aligned}$ |  |
| 66 | B | 18029 |
|  | For example, Cash $=1000$, Inventory $=2000$, accounts payable $=2000$. If cash is used to pay off the accounts payable the ratio increases. |  |
| 67 | A | 18030 |
|  | For example, Cash $=500$, Inventory $=500$, accounts payable $=2000$. If cash is used to pay off the accounts payable the ratio decreases. |  |
| 68 | B | 18031 |
|  | Convert each turnover figure into days, inventory processing $=30.4$ days, receivables $=$ 45.6 days, payables $=40.6$ days. Cash conversion cycle $=$ inventory days + receivables days - payables days. |  |
| 69 | D | 18032 |
|  | Calculations should be performed to the nearest whole month. <br> $200,000+10 \%$ is weighted fully $=220,000$ <br> 50,000 given 3 months weighting $=12,500$ <br> $-10,000$ given 3 months weighting $=-2,500$ <br> Total $=230,000$ |  |
| 70 | B <br> CFO $=200$ dividend receipt $-2,000$ coupon paid $-8,000$ salary paid $+15,000$ cash collections $+4,000$ receivable collection. <br> $C F I=10,000$ proceeds. | 18034 |


| 71 | D | 18036 |
| :---: | :---: | :---: |
|  | CFO $=-1,000$ coupon +200 dividend receipt $-7,000$ salaries $+14,000$ cash collections 4,000 payment of suppliers. <br> CFF $=+2,000$ debt issue $-3,500$ dividend. |  |
| 72 | B | 18039 |
|  | Balance sheet analysis favours FIFO as inventory will represent up to date costs. Income statement analysis favours LIFO as COGS will reflect current costs. |  |
| 73 | B | 18040 |
|  | Higher COGS as these reflect current costs, resulting in lower net income. |  |
| 74 | A | 18041 |
|  | A LIFO liquidation, lower COGS as these reflect old costs, resulting in higher net income. |  |
| 75 | D | 18042 |
|  | Cash flows are higher due to lower profits and lower taxes. Inventory will be lower leading to lower working capital. |  |
| 76 | C | 18043 |
|  | Since, FIFO COGS = (Beginning LIFO inventory + LIFO reserve) + Purchases - (Ending LIFO inventory + LIFO reserve), FIFO COGS = LIFO COGS - Increase in LIFO reserve. |  |
| 77 | B | 18044 |
|  | $C O G S=B I+P-E I$. Therefore the errors lead to $+2,000$ and $--2,000$, that is $+4,000$. Once taxed this will only understate net income by 2,400 . |  |
| 78 | B | 18045 |
|  | Income is more variable for firms that expense as payments are an immediate expense rather than being spread. CFI is higher as there is no outflow for investing in fixed assets. |  |

## 5 CFA I Final Mock Exam: Portfolio Management

$\left.\begin{array}{lll}\hline \mathbf{7 9} & \text { C } \\ \text { The correct order is: } \\ \text { Write the policy statement - this should specify the investor's goals and constraints } \\ \text { Develop an investment strategy - this should satisfy the policy statement, based on } \\ \text { current conditions } \\ \text { Implement the plan - by constructing a portfolio } \\ \text { Monitor and update the strategy - rebalance as needed }\end{array}\right] 18582$

## 6 CFA I Final Mock Exam: Asset Valuation

| $\mathbf{8 5}$ | C <br> The holder is the buyer of the option; their maximum loss is the premium that they have <br> paid in return for the right to sell the underlying security. |
| :--- | :--- | :--- |
| $\mathbf{8 6}$ | C <br> The investor wants to hedge the risk of equities falling in value. Purchasing the option <br> will allow him / her to sell shares at a pre-agreed price should the prices fall. |
| $\mathbf{8 7}$ | B <br> A and D are incorrect as the writer of an option receives a premium. C is incorrect, as it <br> is the writer not the holder that has unlimited downside potential. |
| $\mathbf{8 8}$ | D <br> The BUYER/HOLDER of a put option has the right to sell the security to the |
| $\mathbf{S E L E R / W R I T E R , ~ w h o ~ w i l l ~ c o n s e q u e n t l y ~ h a v e ~ a n ~ o b l i g a t i o n ~ t o ~ b u y . ~}$ |  |


| 97 | D | 18141 |
| :---: | :---: | :---: |
|  | $\begin{aligned} & \mathrm{g}=\mathrm{RR} \times \mathrm{ROE} \\ & \mathrm{~g}=0.6 \times .15=0.09 \end{aligned}$ |  |
|  | Gordon's growth model: $\mathrm{P}=(0.4) /(.12-.09)=\$ 13.33$ <br> But this is a price in two years, discount back to today: 13.33/1.12^2 $=\$ 10.63$ |  |
| 98 | B | 18142 |
|  | $\begin{aligned} & \mathrm{g}=\mathrm{RR} \times \mathrm{ROE} \\ & \mathrm{~g}=0.4 \times .15=0.06 \end{aligned}$ |  |
|  | Gordon's growth model: $\mathrm{P}=(0.5) /(.12-.06)=\$ 8.33$ <br> But this is a price in three years, discount back to today: 8.33/1.12^3 $=\$ 5.93$ |  |
| 99 | B | 18145 |
|  | $\mathrm{P} / \mathrm{E}=(\mathrm{D} / \mathrm{E}) /(\mathrm{r}-\mathrm{g})=0.3 /(.12-.08)=7.5 \mathrm{x}$ |  |
| 100 | A | 18146 |
|  | EPS $=($ EBITDA - depreciation - amortisation - interest) $(1-\mathrm{t})=(16-3-1-3)(0.6)=5.4$ |  |
| 101 | D | 18147 |
|  | All 3 should be used. |  |
| 102 | B | 18148 |
|  | Value-weighted indices tend to be biased towards price movements of higher market capitalised stocks. |  |
| 103 | B | 18149 |
|  | All the tests of the weak form support the hypothesis. |  |
| 104 | D | 18150 |
|  | There are short run profit opportunities around the listing date which fail to support the EMH. |  |
| 105 | D | 18410 |
|  | The money is often borrowed as probate is not granted until the bill is paid. |  |
| 106 | D | 18429 |
|  | All give rise to cash flow estimation problems, you would have the same problem with a floating rate bond. |  |
| 107 | B | 18430 |
|  | The period to the next coupon is $76 / 184=0.41304$. <br> Discount as follows: $\$ 2.50 / 1.04^{\wedge} 0.41304$ + $\$ 2.5 / 1.04^{\wedge 1} .41304$ + $\$ 102.5 / 1.04 \wedge 2.41304$ = $\$ 2.460+\$ 2.365+\$ 93.244$ |  |
| 108 | C | 18431 |
|  | The period to the next coupon is $72 / 183=0.39344$ <br> Discount as follows: $\$ 4.00 / 1.03^{\wedge} 0.39344+\$ 4.00 / 1.03^{\wedge 1} 1.39344+\$ 104.00 / 1.03^{\wedge} 2.39344$ $=\$ 3.953+\$ 3.840+\$ 96.897$ |  |
| 109 | B | 18432 |
|  | It is the purchase price that matters, not the original price when issued. |  |
| 110 | D | 18433 |
|  | A, B and $C$ are all implicit within the YTM model. |  |
| 111 | D | 18434 |
|  | Longer maturities leave greater exposure to interest rate changes. High coupons mean that more of the return is being generated by coupons which will require reinvestment. |  |
| 112 | D | 18435 |
|  | The proper assumption would be that cash flows are assumed to be reinvested at the cash flow yield. |  |


| 113 | D | 18436 |
| :---: | :---: | :---: |
|  | It is calculated as the difference between the YTM and a reference rate (usually LIBOR). The problem is that LIBOR will probably change. |  |
| 114 | D | 18437 |
|  | $\begin{aligned} & 1.022^{\wedge} 2=1.02 \times(1+r) \\ & 1+r=1.024 \end{aligned}$ <br> But, don't forget to annualise, $2.4 \% \times 2=4.8 \%$ |  |
| 115 | C | 18438 |
|  | $\begin{aligned} & 1.03^{\wedge} 8=1.02^{\wedge} 2 \times\left((1+r)^{\wedge} 6\right. \\ & 1+r=1.03336 \end{aligned}$ $\text { Therefore, annualized } r=6.67 \%$ |  |
| 116 | A | 18439 |
|  | Callable bonds experience negative convexity at low yields. |  |
| 117 | D | 18440 |
|  | At high yields putable bonds will see their price yield curve bottom out as it is bounded by the exercise price. Callable bonds will behave in a similar fashion to the option free. |  |
| 118 | A | 18441 |
|  | Different bonds have different effective durations at different yields. Convexity is a way of adjusting for the fact that duration is not a good predictor of price change for large yield changes. |  |
| 119 | B | 18442 |
|  | Option free bonds experience positive convexity, therefore the convexity effect always needs to be added to the duration effect to obtain the predicted price change. |  |
| 120 | A | 20632 |
|  | An increase in interest rate volatility will increase the value of the embedded option within the callable bond and will therefore decrease its value. An increase in stock volatility will increase the price of the equity option. |  |

