BTDT Manual for exam IFM, 2019 Edition
by Dr. Krzysztof Ostaszewski, FSA, FSAS, CERA, CFA, MAAA
Errata

Posted October 12, 2019
In the solution of Problem 26 in Practice Exam 11, the sentence
Peter's portfolio also generates arbitrage profit, if we assume that he buys two calls and sells two puts with strike price of 55
should be:
Peter's portfolio also generates arbitrage profit, if we assume that he buys three puts and sells three calls with strike price of 50, i.e., he shorts three forwards with exercise price of 50:

Posted October 6, 2019
Problem 29 in Practice Exam 5 covers a topic no longer on exam IFM. Please replace it with this problem:
Study Note IFM-01-18, Problem No. 53, video solution:
http://smarturl.it/KO-IFM-Exercise58
For each ton of a certain type of rice commodity, the four-year forward price is 300. A four-year 400-strike European call option costs 110. The continuously compounded risk-free interest rate is 6.5%. Calculate the cost of a four-year 400-strike European put option for this rice commodity.

A. 10.00 B. 32.89 C. 118.42 D. 187.11 E. 210.00

Solution.
Let F be the forward price, K be the strike price, C be the call option price, P be the put option price, v be the annual discount factor due to risk-free interest, and t be the number of years till expiration. We have this put-call parity formula

$$C - P = v^t \cdot \left(F - K\right).$$

Using the data given for this rice commodity,

$$110 - P = \left(e^{-0.065}\right)^4 \cdot \left(300 - 400\right),$$

resulting in

$$P = 110 + 100e^{-0.26} \approx 187.11.$$

Answer D.

Posted October 6, 2019
In the exercise on page 29, add this to the exercise text:
Assume that you must replenish maintenance margin only when margin call is made, not the entire initial margin.
and this comment:

Note that in this problem we assume when margin account balance falls below maintenance margin, we assume that only maintenance margin must be restored by the investor. But in practice it is very common that full initial margin must be restored. Keep that possibility in mind when you solve similar problems.

Posted October 6, 2019
In Problem 22 Practice Exam 2, add this:
Assume that you must replenish maintenance margin when margin call is made.

Posted October 6, 2019
In Problem 2 in Practice Exam 10, add this to the text of the problem:
Assume that when margin call is made, the investor must replenish maintenance margin, not the full initial margin.

Posted September 27, 2019
McDonald's chapter 19 material on Monte Carlo simulation is not on exam IFM, but discussion of Monte Carlo simulation in the study note IFM-21-18 is. For this reason, I included some exercises on the topic that were based on old material (old sample problems 54, 57, 58, 59) in discussion of this topic.

Posted September 27, 2019
On page 132, the phrase
Study Note MFE-01-17, Problem No. 52
should be
Study Note MFE-01-17, Problem No. 54

Posted September 17, 2019
Problem 18 in Practice Examination 3 solution should be (the answer choice is unaffected):

The fair price for a forward is $500 \cdot e^{0.04 \cdot \frac{9}{12}} \approx 515.23.$ The price in the market is 552 instead. We take advantage of the arbitrage opportunity by buying the cheap and selling the expensive: Buy one share of the stock for 500 with money borrowed at the risk-free rate, short one forward at 552. In nine months, repay the loan amount due of $500 \cdot e^{0.04 \cdot \frac{9}{12}} \approx 515.23,$ and deliver the share owned for the short forward transaction closing, receiving 552 for it. The difference of the two, 552 – 515.23 = 36.77, is the profit, but valued nine months from now, not at the end of the year. At the end of the year, this profit is worth $36.77 \cdot e^{0.04 \cdot \frac{3}{12}} \approx 37.14.$
Answer E.

Posted February 17, 2019
The ending of the solution of Problem 24 in Practice Examination 3 should be:
The only payment here is the excess of 10% over 8%, i.e., 2%, which is 20% of LIBOR.
Answer D.

Posted December 11, 2018
Problem 10 in Practice Examination 6 should have Answer E:

E. $15.9384\int_{-\infty}^{0.10} e^{-\frac{1}{2}x^2}\,dx - 19.9002$

and the last part of the solution should be:

$$P = Ke^{-rT}N(-d_2) - Se^{-\delta T}N(-d_1) = 42e^{-0.2\cdot 0.25}N\left(-(-0.10)\right) - 40e^{-0.02\cdot 0.25}N(0) =$$

$$\approx 39.9516N(0.10) - 19.90025 = 39.9516\cdot N(0.10) - 19.90025 =$$

$$= 39.9516\int_{-\infty}^{0.10}\frac{1}{\sqrt{2\pi}}e^{-\frac{1}{2}x^2}\,dx - 19.90025 = \frac{39.9516}{\sqrt{2\pi}}\int_{-\infty}^{0.10} e^{-\frac{1}{2}x^2}\,dx - 19.90025 \approx$$

$$\approx 15.9384\int_{-\infty}^{0.10} e^{-\frac{1}{2}x^2}\,dx - 19.90025.$$

Answer E.