Unit 14 - Week 12

Assessment 12

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-12-09, 23:59 IST.

1) The spot price of silver is INR 15,000 per kg. The storage and insurance costs etc are INR 4,000 p.a. payable quarterly in advance. The premium on a six-month European call with an exercise price of INR 16,000 is INR 2,400. If the risk free rate is 12% p.a. compounded continuously, the premium on a corresponding European put option with the same exercise price and maturity (in INR) is closest to: ***1 point***

- 666
- 466
- 616
- 498

No, the answer is incorrect.
Score: 0
Accepted Answers:
498

2) The spot price of ACC stock is INR 1,000 per share. Dividends of INR 100 are expected after three months. The premium on a six-month European call with an exercise price of INR 1,100 is INR 250. If the risk free rate is 12% p.a., continuously compounded, the premium on a corresponding European put option with the same exercise price and maturity (in INR) is closest to: ***1 point***

- 530
- 502
- 421
- 383

No, the answer is incorrect.
Score: 0
Accepted Answers:
383

3) The stock price 6 months from the expiration of a European call option is 42, the exercise price of the option is 40, the risk-free interest rate is 10% per annum, and the volatility is 20% per annum. The instantaneous value of the call option as per the Black Scholes Model is closest to: ***1 point***

- 4.76
- 4.23
- 5.11
- 4.55

No, the answer is incorrect.
Score: 0
Accepted Answers:
4.76

4) On a given day, the spot value of the S & P BSE Sensex is 36,000. The expected yield on the index is 3% p.a. and the risk-free rate of interest is 9% p.a. continuously compounded. The no-arbitrage future value of the index 9 months from now is closest to: ***1 point***

- 38,156
- 38,244
- 37,250
- 37,657

No, the answer is incorrect.
Score: 0
Accepted Answers:
37,657

5) On a certain day, the spot price of silver was INR 18,000 per kg. The storage and other carrying costs are INR 3,000 p.a. payable quarterly in advance. If the risk free rate is 12% p.a. continuously compounded, the no-arbitrage forward price for a three month forward contract for 1.00 kg of silver (in INR) is closest to: ***1 point***

- 19,635
- 19,321
- 18,832
- 18,655

No, the answer is incorrect.
Score: 0
Accepted Answers:
19,321

6) A stock price is currently INR 100. It is known that at the end of 6 months it will be either INR 90 or INR 110. The risk-free interest rate is 12% per annum with continuous compounding. The value of a 6-month European put option (in INR) with a strike price of INR 100 is closest to: ***1 point***

- 1.42
- 1.80
- 2.38
- 2.32

No, the answer is incorrect.
Score: 0
Accepted Answers:
1.80

7) In the Black Scholes formula for the pricing of options, σ (sigma) represents the: ***1 point***

- Standard deviation of prices of the underlying
- Quadratic variation of the stock's log price process
- Standard deviation of the historical prices of the option to be valued
- Standard deviation of log-returns on the underlying

No, the answer is incorrect.
Score: 0
Accepted Answers:
Standard deviation of log-returns on the underlying

8) A stock price is currently INR 20. It is known that at the end of 3 months it will be either INR 22 or INR 18 with equal probability. The risk-free rate is 12% p.a. continuously compounded. The risk neutral probability for an upswing (in context of the one-step binomial model) is closest to: ***1 point***

- 0.75
- 0.54
- 0.65
- 0.60

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.65

9) The ask price for a share of ABC company is INR 100.50 and the bid price is INR 100. Suppose an investor can borrow at an annual effective rate of 3.05% and lend (i.e. save) at an annual effective rate of 3% with annual compounding. Assume there are no transaction costs and no dividends. The strategy, of the following, that does not create an arbitrage opportunity is: ***1 point***

- Short sell one share, and enter into a long one-year forward contract on one share with a forward price of 103.00
- Short sell one share, and enter into a long one-year forward contract on one share with a forward price of 102.75
- Short sell one share, and enter into a long one-year forward contract on one share with a forward price of 102.50
- Purchase one share with borrowed money, and enter into a short one-year forward contract on one share with a forward price of 103.60

No, the answer is incorrect.
Score: 0
Accepted Answers:
Short sell one share, and enter into a long one-year forward contract on one share with a forward price of 103.00

10) For a certain stock, Investor A purchases a 45-strike call option while Investor B purchases a 135-strike put option. Both options are European with the same expiration date. Assume that there are no transaction costs. On expiration, the stock price ends up at a value such that Investor A's payoff turns out to be 12. The payoff of Investor B is: ***1 point***

- 57
- 12
- 78
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
78