

- (A) 586
- (B) 594
- (C) 684
- (D) 692
- (E) 797

19. Consider a *forward start option* which, 1 year from today, will give its owner a 1-year European call option with a strike price equal to the stock price at that time.

You are given:

- (i) The European call option is on a stock that pays no dividends.
- (ii) The stock's volatility is 30%.
- (iii) The forward price for delivery of 1 share of the stock 1 year from today is 100.
- (iv) The continuously compounded risk-free interest rate is 8%.

Under the Black-Scholes framework, determine the price today of the forward start option.

- (A) 11.90
- (B) 13.10
- (C) 14.50
- (D) 15.70
- (E) 16.80

- 33.** You own one share of a nondividend-paying stock. Because you worry that its price may drop over the next year, you decide to employ a *rolling insurance strategy*, which entails obtaining one 3-month European put option on the stock every three months, with the first one being bought immediately.

You are given:

- (i) The continuously compounded risk-free interest rate is 8%.
- (ii) The stock's volatility is 30%.
- (iii) The current stock price is 45.
- (iv) The strike price for each option is 90% of the then-current stock price.

Your broker will sell you the four options but will charge you for their total cost now.

Under the Black-Scholes framework, how much do you now pay your broker?

- (A) 1.59
- (B) 2.24
- (C) 2.86
- (D) .48
- (E) 3.61

34-39. DELETED