Assignment 2

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

1) Which of the following is not a type of trader:
   - Speculator
   - Hedger
   - Bureaucrat
   - Arbitrager

   Correct Answer: Speculator
   - 1 point

2) State whether the following statement is TRUE or FALSE:
   "The par value is paid by the creditor to the debtor at maturity."

   TRUE
   - 1 point

3) Which of the following can be the number of payments made by the debtor to the creditor of a coupon bond:
   - 0
   - 1
   - 5

   Correct Answer: 5
   - 1 point

4) Which of the following can be earned by a stockholder:
   - Coupon payments
   - Dividend yields
   - Capital gains
   - Swap payments

   Correct Answer: Dividend yields, Capital gains
   - 1 point

5) Consider a two-stage binomial model with \( S(0) = 100, u = 1.2 \) and \( d = 0.8 \).
   "The stock price at time \( t = 2 \) as a result of one upward and one downward movement equals:"

   \[ S(2) = S(u)u + S(d)0.8 \]

   Correct Answer: 214.4
   - 1 point

6) The value of an investment of 100 at a risk-free rate (with continuous compounding) of 6% for one year equals:

   \[ V = 100e^{0.06} \]

   Correct Answer: 106.19
   - 1 point

7) If \( W(t) \) is a Wiener process with \( W(0) = 0 \), then \( \text{Var}(W(3) - W(2)) + \text{Var}(W(4) - W(0)) \) equals:

   \[ \text{Var}(W(3) - W(2)) + \text{Var}(W(4) - W(0)) = \text{Var}(W(3)) + \text{Var}(W(4)) - 2\text{Cov}(W(3), W(4)) = 0 + 0 - 0 = 0 \]

   Correct Answer: 0
   - 1 point

8) If \( S(t) = S(0)e^{0.05t} \), then the corresponding stochastic differential equation (SDE) is given by:

   \[ dS(t) = S(t)dt + 0.05S(t)dW(t) \]

   Correct Answer: \( dS(t) = S(t)dt + 0.05S(t)dW(t) \)
   - 1 point