UNIVERSITY OF TEXAS AT AUSTIN

Quiz #8

Review of options and forwards.

In preparation for the next class, please solve the following problems:

Problem 8.1. (5 points) For a continuous-dividend-paying asset whose price is denoted by $\mathbf{S} = \{S(t), t \geq 0\}$ with the dividend yield δ, what is the expression for:

(i) (2 points) the **prepaid-forward** price for delivery of one unit of the asset at time$-T$;

(ii) (3 points) the **forward** price for delivery of one unit of the asset at time$-T$

Problem 8.2. (4 points) Consider an asset with the price is denoted by $\mathbf{S} = \{S(t), t \geq 0\}$.
(2 points) What is the expression for the **payoff** of a long $K-$strike European call on that asset with exercise date T?

(2 points) What is the expression for the **payoff** of a long $K-$strike European put on that asset with exercise date T?

Problem 8.3. (6 points)

Consider an asset with the price is denoted by $\mathbf{S} = \{S(t), t \geq 0\}$.

Portfolio A consists of the following components:

- a long $K-$strike European call on $\mathbf{S}$ with exercise date T, and
- a short $K-$strike European put on $\mathbf{S}$ with exercise date T.

Draw the payoff curve of the above portfolio.