**ENEE324-03 Spring 2019. Problem set 5**

**Date due** March 28, 2019

Problems 1-5 are from the textbook.

1. p. 219, no. 2.
2. p. 221, no. 18.
3. p. 223, no. 34.
4. p. 279, no. 10.
5. p. 282, no. 22.
6. The joint PDF of RVs $X$ and $Y$ is given by

$$f_{XY}(x,y) = \begin{cases} \frac{1}{2}ye^{-x} & \text{if } x > 0, 0 < y < 2 \\ 0 & \text{o/w.} \end{cases}$$

Find the marginal PDFs of $X$ and $Y$.

7. The joint PMF of RVs $X$ and $Y$ is given by

$$p_{XY}(x,y) = \begin{cases} \frac{1}{15}(x+y) & \text{if } x = 0,1,2, y = 1,2 \\ 0 & \text{o/w.} \end{cases}$$

Find $p_{X|Y}(x|y)$ and $P(X = 0|Y = 2)$.