

長庚大學期中、期末考試答案用紙

學年度 第 學期 考 資 工 系 姓名 賴作瑛

(1)

(a) $f_X(z) = \frac{1}{\sqrt{2\pi}} e^{-\frac{z^2}{2}}$, $-\infty < z < \infty$

(b) $P(-1 \leq Z \leq 1) = P(Z \leq 1) - P(Z \leq -1) = 0.8413 - 0.1587$
 $= 0.6826$

$\int_{-1}^1 \frac{1}{\sqrt{2\pi}} dx = \frac{1}{\sqrt{2\pi}}$

(c)

$X = 1.64$ $\frac{0.95 - 0.9495}{0.9505 - 0.9495} X = 1.645 \approx 1.64$

d.

[2] (a) $f_T(t) = \frac{1}{t} e^{-t/t} = \frac{1}{t} e^{-1}$, $t > 0$

(b) 1

(c) 1