國立金門技術學院 97 學年度電資研究所考試入學試題答案

科目：通訊原理

1. $f(t)=\sum_{n\,odd}-\frac{6j}{n\pi}e^{jnt}=\sum_{n\,odd}\frac{6}{n\pi}e^{j(nt-\frac{\pi}{2})}$

2. (1) Modulation index = 0.2 (2) Efficiency= 1.96%.

3. (1) $H(f)=\frac{1}{1+j2\pi fRC}$

   (2) $\frac{N_0}{2}\frac{1}{1+(2\pi fRC)^2}$

   (3) $\frac{A^2}{2}\frac{1}{1+(2\pi fRC)^2}$

4. (1) There exist lots of valid codewords. An examples is as follows.

m1 1

m2 000

m3 001

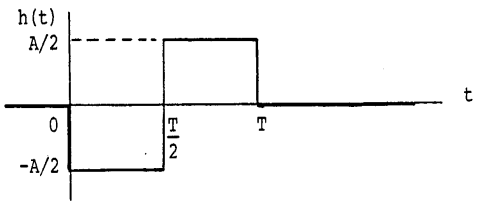
m4 010

m5 011

(2) 2.2

5.

   (1) The impulse response is $h(t)=s_1(T-t)$



   (2) $\frac{A^2T}{4}$