Question 1
(a)   1101100
(0.3 mark)

(b) $r(x) = 1$
(0.3 mark)

(c)   110110010
(0.3 mark)

(d)   Single errors can be detected. Because $g_2(x)$ has more than 1 term.
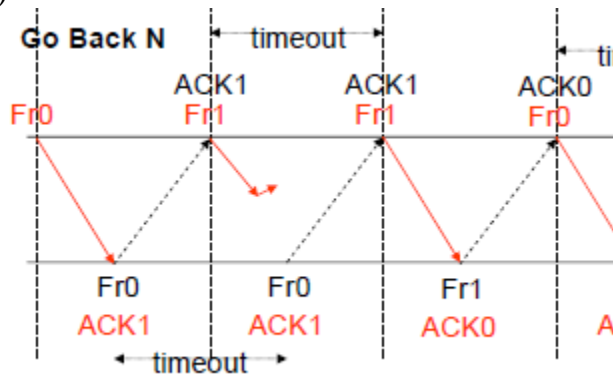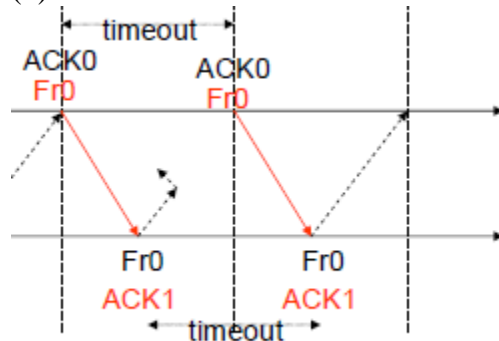(0.3 mark)

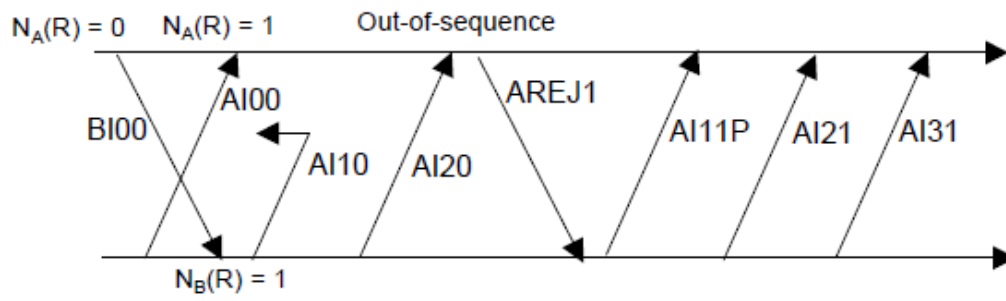(e)   1101101111
(0.3 mark)

Question 2
(a)

(0.5 mark)

(b)

(0.5 mark)

Question 3
0.7352
(0.5 mark)

Question 4

$N_A(R) = 0$ $N_A(R) = 1$ Out-of-sequence

AI00
BI00
AREJ1
AI10 AI20
AI11P AI21 AI31

$N_B(R) = 1$

(1 mark)