Задания к расчетной работе № 3 по курсу "Надежная передача данных"

20 ноября 2019 г.

Необходимо построить порождающий многочлен $g(x)$ двоичного примитивного кода БЧХ длины $n = 63$ с конструктивным расстоянием δ, имеющий корни $\alpha^b, \alpha^{b+1}, \ldots$, где α — примитивный корень многочлена $\pi(x)$. Затем необходимо выполнить систематическое кодирование в полученном коде заданного информационного многочлена $a(x)$. В ответе необходимо указать $g(x)$, размерность полученного кода k, а также кодовый многочлен $c(x)$, полученный в результате систематического кодирования $a(x)$. Пример оформления ответа:

- Иванов Иван Иванович, гр. 12345
- $g(x) = x^10 + x^2 + 1$
- $k = 1000$
- $c(x) = x^2 + x + 1$

До 4.12 за правильно выполненное задание начисляются 10 баллов. Далее до 11.12 за правильно выполненное задание начисляются 5 баллов. После этой даты ответы не принимаются. Решения присылать преподавателю, ведущему практические занятия, с темой письма CodingTask3. Номер варианта указан в журнале курса.

1. $\pi(x) = x^6 + x + 1, \delta = 9, b = 1, a(x) = x^{10} + x^8 + x^7 + x^5 + x^4 + x^3 + x + 1$
2. $\pi(x) = x^6 + x + 1, \delta = 9, b = 55, a(x) = x^{10} + x^8 + x^7 + x^6 + x^4 + x^3 + x^2$
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131. $\pi(x) = x^6 + x^5 + x^4 + x + 1, \delta = 11, b = 53, a(x) = x^7 + x^5 + 1$

132. $\pi(x) = x^6 + x^5 + x^4 + x + 1, \delta = 11, b = 55, a(x) = x^{10} + x^9 + x^7 + x^3$

133. $\pi(x) = x^6 + x + 1, \delta = 9, b = 1, a(x) = x^{10} + x^3 + x^2$

134. $\pi(x) = x^6 + x + 1, \delta = 9, b = 55, a(x) = x^7 + x^3 + x^2 + x + 1$

135. $\pi(x) = x^6 + x + 1, \delta = 9, b = 57, a(x) = x^{10} + x^6 + x^5 + x^2$

136. $\pi(x) = x^6 + x^5 + 1, \delta = 9, b = 1, a(x) = x^8 + x^4 + x^2 + 1$

137. $\pi(x) = x^6 + x^5 + 1, \delta = 9, b = 55, a(x) = x^8 + x^4 + 1$

138. $\pi(x) = x^6 + x^5 + 1, \delta = 9, b = 57, a(x) = x^{10} + x^8 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$

139. $\pi(x) = x^6 + x^4 + x^3 + x + 1, \delta = 9, b = 1, a(x) = x^7 + x^4 + x^2 + x + 1$

140. $\pi(x) = x^6 + x^4 + x^3 + x + 1, \delta = 9, b = 55, a(x) = x^{10} + x^8 + x^6 + x^5 + x^3 + x$

141. $\pi(x) = x^6 + x^4 + x^3 + x + 1, \delta = 9, b = 57, a(x) = x^9 + x^3 + x + 1$

142. $\pi(x) = x^6 + x^5 + x^2 + x + 1, \delta = 9, b = 1, a(x) = x^{10} + x^6 + x^3 + 1$

143. $\pi(x) = x^6 + x^5 + x^2 + x + 1, \delta = 9, b = 55, a(x) = x^{10} + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$

144. $\pi(x) = x^6 + x^5 + x^2 + x + 1, \delta = 9, b = 57, a(x) = x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^2 + x$

145. $\pi(x) = x^6 + x^5 + x^3 + x^2 + 1, \delta = 9, b = 1, a(x) = x^9 + x^8 + x^7 + x^6 + x^5 + 1$

146. $\pi(x) = x^6 + x^5 + x^3 + x^2 + 1, \delta = 9, b = 55, a(x) = x^8 + x^4 + x^3 + 1$

147. $\pi(x) = x^6 + x^5 + x^3 + x^2 + 1, \delta = 9, b = 57, a(x) = x^8 + x^2$

148. $\pi(x) = x^6 + x^5 + x^4 + x + 1, \delta = 9, b = 1, a(x) = x^{10} + x^6 + x^5 + x$

149. $\pi(x) = x^6 + x^5 + x^4 + x + 1, \delta = 9, b = 55, a(x) = x^8 + x^5$

150. $\pi(x) = x^6 + x^5 + x^4 + x + 1, \delta = 9, b = 57, a(x) = x^6 + x^5 + x^4 + x^2 + 1$