

Week- 4

Practice Assessment – Error Control

1. Given a 7-bit information frame (0, 1, 0, 1, 1, 0, 1), what is the even parity bit?

- 1
- 0
- None of the above

2. Which of following statements are true for single-bit parity error detection?

- **It can detect all single bit errors in an information frame**
- It can detect all double bit errors in an information frame
- **It can detect all tripe bit errors in an information frame**
- None of the above

3. Which of following statements are true for two-dimensional parity error detection?

- It can detect all single bit errors in an information frame
- It can correct all single bit errors in an information frame
- It can detect all double bit errors in an information frame
- **All of the above**

4. Assume bit errors occur at random. If each bit has 50% probability to be in error by transmission. What is the probability of a four-bit frame to be in error by transmission?

- 1/4
- 1/8
- **1/16**
- None of the above

5. What is the binary sequence that corresponds to polynomial code $X^3 + x^2 + 1$?

- 0111
- **1101**
- 111
- 1110

6. Block codes are generated using ____.

- Generator matrix
- **Generator polynomial**
- Both of the mentioned
- None of the mentioned

7. Which of the following is true for two-dimensional parity check

- **Arrange information in columns**
- Arrange information in rows
- **More parity bit to improve coverage**
- Add multiple parity bits to each column

8. Polynomial codes are implemented using shift register circuits

- True
- False

9. What is the binary equivalent of the following polynomial arithmetic

$$x^7 + x^6 + x^5 + x^2 + 1$$

- 11100111
- 11011101
- 11101101
- 11100101

10. Using Euclidean Division, what will be the remainder of 70 by 999 where 70 is the divisor and 999 is the dividend

- 14
- 19
- 21
- 17