Unit 5 - Week-4

Assignment-4

The due date for submitting this assignment has passed. **Due on 2016-04-12, 23:55 IST.**

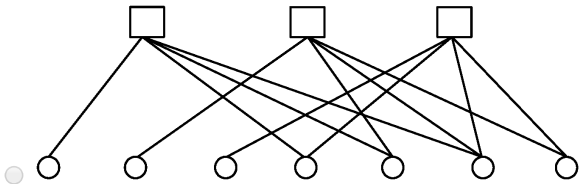
Submitted assignment

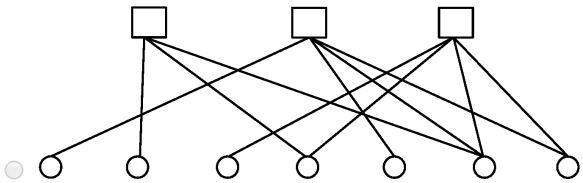
Assignment for Week-4 Lectures

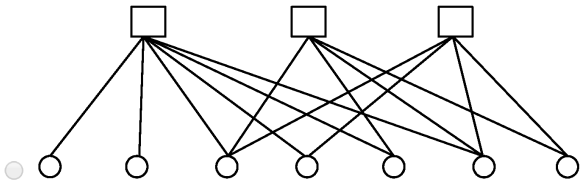
1) Given an $\mathbf{H}$ matrix *1 point*

$$\mathbf{H} = \begin{bmatrix} 1 & 0 & 0 & 1 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 1 & 1 & 1 \\ 0 & 0 & 1 & 1 & 0 & 1 & 1 \end{bmatrix}$$

Corresponding Tanner graph is



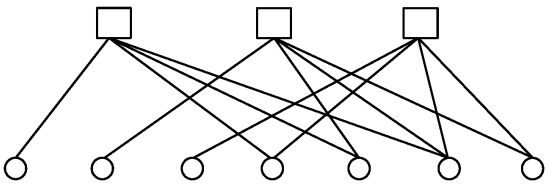




None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:



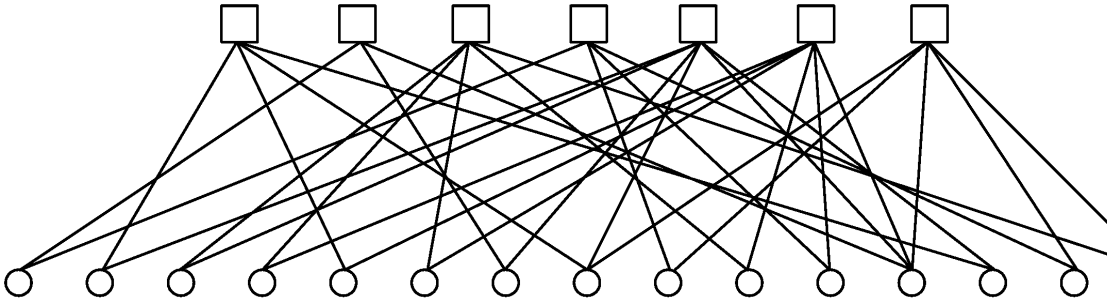
2) A linear block code given by parity check matrix $\mathbf{H}$ as given in Q.1 is an example of *1 point*

- Repetition Code
- Regular LDPC Code
- Irregular LDPC Code
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
None of the above

3) Given below a Tanner graph of a LDPC code. What is the column degree distribution? *1 point*



- $\frac{13}{15}x^2 + \frac{1}{15}x^3 + \frac{1}{15}x^4$
- $\frac{13}{15}x + \frac{1}{15}x^2 + \frac{1}{15}x^3$
- $\frac{1}{7}x^2 + \frac{2}{7}x^3 + \frac{2}{7}x^4 + \frac{2}{7}x^5$
- $\frac{1}{7}x^3 + \frac{2}{7}x^4 + \frac{2}{7}x^5 + \frac{2}{7}x^6$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$\frac{13}{15}x + \frac{1}{15}x^2 + \frac{1}{15}x^3$

4) For the Tanner graph given in Q.3, what is the row degree distribution? *1 point*

- $\frac{13}{15}x^2 + \frac{1}{15}x^3 + \frac{1}{15}x^4$
- $\frac{13}{15}x + \frac{1}{15}x^2 + \frac{1}{15}x^3$
- $\frac{1}{7}x^2 + \frac{2}{7}x^3 + \frac{2}{7}x^4 + \frac{2}{7}x^5$
- $\frac{1}{7}x^3 + \frac{2}{7}x^4 + \frac{2}{7}x^5 + \frac{2}{7}x^6$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$\frac{1}{7}x^2 + \frac{2}{7}x^3 + \frac{2}{7}x^4 + \frac{2}{7}x^5$

5) Which of the following is not a valid **ISBN** number? *1 point*

- 0070153868
- 007066756X
- 0134947900
- 8126512652

No, the answer is incorrect.
Score: 0

Accepted Answers:
0134947900

6) Which of the following is not a valid **Bookland barcode** number? *1 point*

- 9788126538454
- 9780521621045
- 9780471491101
- 9788131729003

No, the answer is incorrect.
Score: 0

Accepted Answers:
9788131729003

7) Which of the following is not a valid European Article number? *1 point*

- 8904063258259
- 9780471117094
- 4006381333931
- 4011200296908

No, the answer is incorrect.
Score: 0

Accepted Answers:
8904063258259

8) Which of the following is a valid **UPC version-A** code? ***1 point***

- 123456789101
- 012345678901
- 075678164125
- 212345678902

No, the answer is incorrect.
Score: 0

Accepted Answers:
075678164125

9) What is the girth of the Tanner graph of a LDPC code whose parity check matrix $\mathbf{H}$ is given as ***1 point***

$$\mathbf{H} = \begin{bmatrix} 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 1 & 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 1 & 1 & 0 & 1 & 0 & 0 & 1 \end{bmatrix}$$

- 2
- 4
- 6
- 8

No, the answer is incorrect.
Score: 0

Accepted Answers:
8

10)Which of the following statement is incorrect? ***1 point***

- Reed-Solomon codes are used for error correction in compact discs.
- Low density parity check along with BCH outer code are used for high speed satellite communication.
- Use of LDPC is mandatory in IEEE 802.11n standard
- IEEE 802.3 standard uses LDPC codes for 10 gigabit transmission over shielded or unshielded twisted pair cables

No, the answer is incorrect.
Score: 0

Accepted Answers:
Use of LDPC is mandatory in IEEE 802.11n standard

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