King Saud University

Electrical Engineering Department

10

EE\_208: HW#3

Name:

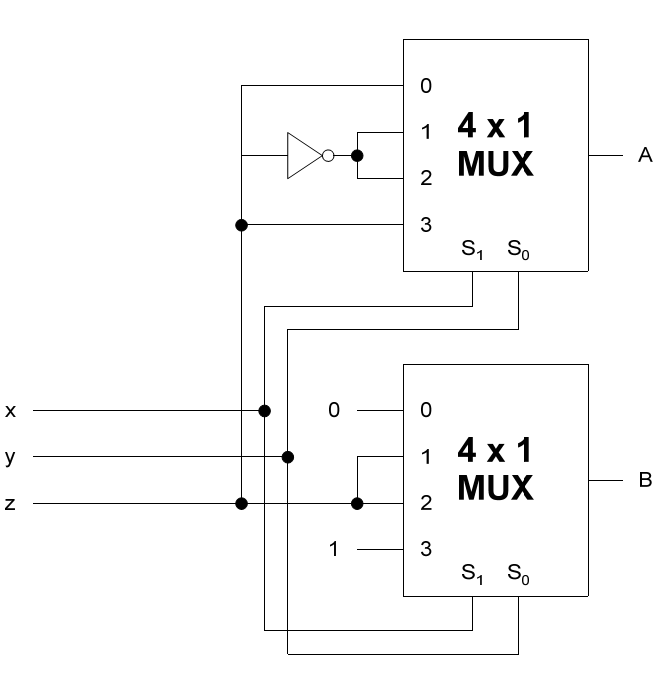
Number:

Deadline: 7-May

Implement a full adder circuit by using: 3 – to - 8 line Decoder (2 marks)

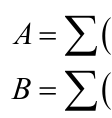
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | y | z | S | C |
| 0 | 0 | 0 |  |  |
| 0 | 0 | 1 |  |  |
| 0 | 1 | 0 |  |  |
| 0 | 1 | 1 |  |  |
| 1 | 0 | 0 |  |  |
| 1 | 0 | 1 |  |  |
| 1 | 1 | 0 |  |  |
| 1 | 1 | 1 |  |  |

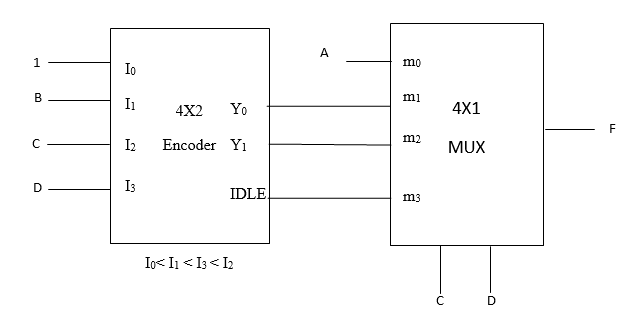
Q.2 (4 marks)



|  |  |  |  |
| --- | --- | --- | --- |
| x | y | z | A |
| 0 | 0 | 0 |  |
| 0 | 0 | 1 |  |
| 0 | 1 | 0 |  |
| 0 | 1 | 1 |  |
| 1 | 0 | 0 |  |
| 1 | 0 | 1 |  |
| 1 | 1 | 0 |  |
| 1 | 1 | 1 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| x | y | z | B |
| 0 | 0 | 0 |  |
| 0 | 0 | 1 |  |
| 0 | 1 | 0 |  |
| 0 | 1 | 1 |  |
| 1 | 0 | 0 |  |
| 1 | 0 | 1 |  |
| 1 | 1 | 0 |  |
| 1 | 1 | 1 |  |



Q.3 Find F as a sum of minterm (4 marks)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| A | B | C | D | Y1 | Y0 | IDLE | F |
| 0 | 0 | 0 | 0 | X | X | 1 |  |
| 0 | 0 | 0 | 1 |  |  | 0 |  |
| 0 | 0 | 1 | 0 |  |  | 0 |  |
| 0 | 0 | 1 | 1 |  |  | 0 |  |
| 0 | 1 | 0 | 0 |  |  | 0 |  |
| 0 | 1 | 0 | 1 |  |  | 0 |  |
| 0 | 1 | 1 | 0 |  |  | 0 |  |
| 0 | 1 | 1 | 1 |  |  | 0 |  |
| 1 | 0 | 0 | 0 |  |  | 0 |  |
| 1 | 0 | 0 | 1 |  |  | 0 |  |
| 1 | 0 | 1 | 0 |  |  | 0 |  |
| 1 | 0 | 1 | 1 |  |  | 0 |  |
| 1 | 1 | 0 | 0 |  |  | 0 |  |
| 1 | 1 | 0 | 1 |  |  | 0 |  |
| 1 | 1 | 1 | 0 |  |  | 0 |  |
| 1 | 1 | 1 | 1 |  |  | 0 |  |

F=∑(