**Exercice d'application: Compteur au cycle paire**

En utilisant des bascules **JKH** déclenché par le front descendant d'horloge, établir **la table des états futures**, les **équations simplifiées des entrées des bascules** (obtenues par méthode de Karnaugh) et **le logigramme** pour un compteur synchrone au cycle de comptage suivant:

***0 → 2 → 4 → 6***

* **Table des états futures:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| QC | QB | QA |  | JC | KC | JB | KB | JA | KA |
| 0 | 0 | 0 | 0 | X | 1 | X | 0 | X |
| 0 | 1 | 0 | 1 | X | X | 1 | 0 | X |
| 1 | 0 | 0 | X | 0 | 1 | X | 0 | X |
| 1 | 1 | 0 | X | 1 | X | 1 | 0 | X |

* **Tables de Karnaugh:**

QC

QB QA

QC

QB QA

QC

QB QA

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 0 |  |  |  |  |
| 1 |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 0 |  |  |  |  |
| 1 |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 0 |  |  |  |  |
| 1 |  |  |  |  |

KA= 1

JA= 0

QC

QB QA

QC

QB QA

QC

QB QA

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 0 |  |  |  |  |
| 1 |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 0 | *0* | *X* | *X* | *1* |
| 1 | *X* | *X* | *X* | *X* |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 00 | 01 | 11 | 10 |
| 0 | *X* | *X* | *X* | *X* |
| 1 | *0* | *X* | *X* | *1* |

JB= 1

KC= QB

JC= QB

KB= 1

* **Logigramme:**

