CMPG322

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| Prakties 7 – Markov modelle | *Practical 7 – Markov models* |  |
| Indieningsdatum: 24/10/2022 | ***Submission date****: 24/10/2022* |  |
| **NB: Rond in al jou bewerkings af tot drie desimale.**  **NB: In all calculations, round to three decimals.** | |  |
| 1. Na aanleiding van die onlangse stilstand van kragstasies, is jou opdrag om die waarskynlikheid te bepaal dat beurtkrag Donderdag (drie dae van nou af) sal plaasvind. Hierdie diagram verteenwoordig die veranderinge in die krag situasie van een dag na die volgende. | 1. *Following the recent power station shut downs, you are tasked with determining the probability that loadshedding will take place on Thursday (three days from now). This diagram represents the changes in the power situation from one day to the next.* |  |
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| 1. Bepaal die toestand oorgangsmatriks geassosieer met hierdie situasie. | 1. *Determine the associated transition matrix.* | (9) |
| 1. Bepaal die waarskynlikheid dat daar beurtkrag sal plaasvind oor drie dae (let wel: daar is beurtkrag vandag). | 1. *Determine the probability that there will be loadshedding in three days' time (note: there is loadshedding today).* | (1) |
| 1. Wat is die ewewigstoestand en hoe lank sal dit vat om dit te bereik? | 1. *What is the steady state and how long will it take to reach?* | (5) |
| **TOTAAL/*TOTAL:* [15]** | | |