



# Kerala Public Enterprises (Selection and Recruitment) Board

Opposite KELTRON, Vellayambalam, Thiruvananthapuram

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**Version: B**

**Name of Examination: Electrical Engineering**

**Date: 13/09/2026**

## Written examination for:

051-2025-Senior Engineer – Electrical (Executive Trainee – Electrical)-The Travancore Cochin Chemicals Limited

## PROVISIONAL ANSWER KEY

| Sl No |   | Answer                                                     |
|-------|---|------------------------------------------------------------|
| 1     | B | Phase difference                                           |
| 2     | D | Core loss, windage and friction loss                       |
| 3     | B | Output resistance                                          |
| 4     | C | Equal to 1                                                 |
| 5     | C | Be positive and non-zero                                   |
| 6     | C | The same whether referred to the primary or secondary side |
| 7     | C | Deactivating independent sources and finding resistance    |
| 8     | D | XOR gate                                                   |
| 9     | C | Reduced harmonic distortion                                |
| 10    | A | 8 kHz                                                      |
| 11    | A | Differential gain to common-mode gain                      |
| 12    | D | Rotor reactance=rotor resistance                           |
| 13    | C | Opposite to motoring                                       |
| 14    | B | 0.5                                                        |
| 15    | C | Load greater than generation                               |
| 16    | A | Interconnect two asynchronous AC grids                     |
| 17    | D | 0.6A                                                       |
| 18    | C | Dual slope                                                 |
| 19    | B | Prime mover input                                          |
| 20    | B | Induction motor drives                                     |

|    |   |                                                        |
|----|---|--------------------------------------------------------|
| 21 | D | Solar Cell                                             |
| 22 | C | It introduces a constant steady-state error (offset)   |
| 23 | B | Reduce steady state error                              |
| 24 | C | It doubles                                             |
| 25 | B | To reduce $I^2 R$ power losses in transmission lines   |
| 26 | A | Shift right by 3, then scale (compress) by 2           |
| 27 | C | Zero                                                   |
| 28 | B | Decreases                                              |
| 29 | B | Voltage controlled device                              |
| 30 | C | Junction and stray capacitances                        |
| 31 | C | Hydro-electric power plants                            |
| 32 | D | 1110 rpm                                               |
| 33 | A | Memory addressing                                      |
| 34 | B | 2                                                      |
| 35 | B | 400 MW                                                 |
| 36 | C | Ratio of average load to maximum demand                |
| 37 | D | Exponentially bounded                                  |
| 38 | D | 8 V                                                    |
| 39 | C | 0.1 s                                                  |
| 40 | B | PWM rectifier                                          |
| 41 | D | 6f                                                     |
| 42 | C | BJT in common base configuration has high voltage gain |
| 43 | C | Voltage divider bias                                   |
| 44 | A | Slip                                                   |
| 45 | B | 50%                                                    |
| 46 | A | SI – A = 0                                             |
| 47 | D | Restriking Voltage                                     |
| 48 | B | Overhead line insulators                               |
| 49 | C | Poles and signal type                                  |
| 50 | B | 1800mH                                                 |
| 51 | A | 960                                                    |

|    |   |                                                                                                   |
|----|---|---------------------------------------------------------------------------------------------------|
| 52 | D | over compensation due to friction                                                                 |
| 53 | B | within the unit circle                                                                            |
| 54 | B | 3 ms                                                                                              |
| 55 | C | the existence of stray capacitance between the metallic junctions of the units and the tower body |
| 56 | D | entire $z$ plane except $z = 0$ and $z = \infty$                                                  |
| 57 | C | may or may not be stable                                                                          |
| 58 | A | 5 A, 3 A                                                                                          |
| 59 | B | 125 W                                                                                             |
| 60 | A | 3600 W                                                                                            |
| 61 | B | Damper winding                                                                                    |
| 62 | A | zero                                                                                              |
| 63 | C | $50 e^{-3t}$                                                                                      |
| 64 | C | 0.30                                                                                              |
| 65 | D | 0.4                                                                                               |
| 66 | B | $(1010)_2$                                                                                        |
| 67 | D | all of these                                                                                      |
| 68 | B | 6.3 V                                                                                             |
| 69 | B | demagnetising                                                                                     |
| 70 | B | 50 W                                                                                              |
| 71 | A | active power to busbars and its power angle will increase                                         |
| 72 | D | prevent hunting and to provide starting torque                                                    |
| 73 | A | Periodic with a period $T$                                                                        |
| 74 | D | stability and voltage profile                                                                     |
| 75 | D | inductive reactance                                                                               |
| 76 | D | Non-linear                                                                                        |
| 77 | C | 4 rad/s                                                                                           |
| 78 | C | 15, 16                                                                                            |
| 79 | C | gives a nearly sinusoidal output voltage                                                          |
| 80 | A | 1                                                                                                 |
| 81 | A | $f < f_0$                                                                                         |

|     |   |                                                                  |
|-----|---|------------------------------------------------------------------|
| 82  | C | decrease both rise time and over shoot                           |
| 83  | D | 0.707 lead                                                       |
| 84  | B | 2820 rpm                                                         |
| 85  | A | NOR with negative logic                                          |
| 86  | C | differentially compounded motor                                  |
| 87  | A | 67.C8                                                            |
| 88  | A | 0°                                                               |
| 89  | C | more than the no-load voltage                                    |
| 90  | D | both base-emitter and base-collector junction are forward biased |
| 91  | C | 0.08                                                             |
| 92  | C | become 3 times                                                   |
| 93  | B | 39.6 $\Omega$                                                    |
| 94  | B | 2.8 pu                                                           |
| 95  | C | resistors of same values across each SCR                         |
| 96  | C | 2.5%                                                             |
| 97  | C | 0.5                                                              |
| 98  | B | 400 MW                                                           |
| 99  | B | 6.66 A                                                           |
| 100 | A | 1.47                                                             |

**NB:** - Complaints regarding the Provisional Answer Key should be submitted by candidates to the e-mail (kpesrb@gmail.com) of the Board within a period of 4 days from the date of publication of this Provisional Answer Key (both days included) ie. By 11.59 PM on 17/09/2026. Final Answer Key will be published in the official website of KPESRB.

Shine A Haq  
Secretary