

Laboratory **Quality Control and Quality Assurance Laboratory, Tata Coffee Limited, SF No. 906, Jayamangalam Village, Periyakulam (Tk), Theni (Dt.), Tamil Nadu**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-5368**

Page 1 of 3

Validity **27.03.2017 to 26.03.2019**

Last Amended on --

| Sl. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|-----|----------------------------|-------------------------|-------------------------------------------------------------|----------------------------------------|
|-----|----------------------------|-------------------------|-------------------------------------------------------------|----------------------------------------|

BIOLOGICAL TESTING

| I. | FOOD & AGRICULTURE PRODUCT | | | |
|----|---------------------------------------|-------------------|------------------|---------------------------|
| 1. | Coffee and Cocco Products | Total Plate Count | ISO 4833:2003 | 10cfu/gm to 100000 cfu/gm |
| | | Yeast And Mold | ISO 21527-2:2008 | 10 cfu/gm to 1000 cfu/gm |
| | | Enterobacteriace | ISO 21528-2:2004 | 10 cfu/gm to 80 cfu/gm |

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Convenor

N. Venkateswaran
Program Director

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Page 2 of 3

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CHEMICAL TESTING

| | | | | |
|------------|---------------------------------------|----------------|----------------------------------------------------------------------------|--------------------------|
| I. | FOOD & AGRICULTURE PRODUCT | | | |
| 1. | Coffee and Cocoa Products | Moisture | IS 2791:1992 Annex B(Oven method) and Karl fishcer method ISO20938:2008 | 0.1 % to 6.0 % |
| | | Bulk density | IS16033:2012/ISO 8460:1987 | 0.095 g/cc to 0.379 g/cc |
| | | Solubility | IS 2791:1992 Annex E | 1 second to 180seconds |
| | | Caffeine | ISO20481:2008/ IS 16028 : 2012 | 0.5 % to 10% |
| | | Total Ash | IS 2791:1992 Annex C | 4 % to 12% |
| II. | WATER | | | |
| 1. | Boiler Blow Down Water | pH | IS 3025 PART II Reaffirmed 2002 | 1-14 |
| | | TDS | IS 3025 PART 14 Reaffirmed 2002 | 0.001 g/l to 1000 g/l |
| | | Conductivity | | 0 ms/cm to 1100 ms/cm |
| | | Total Hardness | IS 3025 (part21):2009 | 2 mg/l to 10000 mg/l |
| 2. | Effluent treated water | Alkalinity | IS 3025 (part23):1986 (Reaffirmed 2003) | 2 mg/l to 10000 mg/l |
| | | Silica ion | TICD/SOP/411 Issue No :01 Issue Dt:01.06.2016 | 0.05 mg/l to 1070 mg/l |
| | | Iron | TICD/SOP/418 Issue No :01 Issue Dt:01.06.2016 | 0.005 mg/l to 5.00 mg/l |
| | | pH | IS 3025 PART II Reaffirmed 2002 | 1-14 |
| | | TDS | IS 3025 PART | 0.001 g/l -1000 g/l |

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Page 3 of 3

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| | | Conductivity | 14Reaffirmed 2002 | Up to 1100ms/cm |
| | | Chemical oxygen demand | TICD/SOP/414 Issue No :01 Issue Dt:01.06.2016 | 10 mg/l to 10000 mg/l |
| | | Biological oxygen demand | TICD/SOP/415 Issue No :01 Issue Dt:01.06.2016 | Up to 4000 mg/l |
| | | Total suspended solids | IS (3025 part 17):1984 (Reaffirmed2012) | 10 mg/l to 10000 mg/l |
| | | Turbidity | IS 3025 PART 10 Reaffirmed 2002 | Up to 800 NTU |
| 3. | Water to be used for Manufacturing | pH | IS 3025 PART II Reaffirmed 2002 | 1-14 |
| | | TDS | IS 3025 PART 14 Reaffirmed 2002 | 0.001 g/l to 1000 g/l |
| | | Conductivity | Reaffirmed 2002 | 0 ms/cm to 1100 ms/cm |
| | | Total Hardness | IS 3025 (part23):1986 (Reaffirmed 2003) | 2 mg/l to 10000 mg/l |
| | | Alkalinity | IS 3025 (part32):1988 (Reaffirmed2003) | 2 mg/l to 10000 mg/l |
| | | Residual chloride | IS 3025 (part32):1988 (Reaffirmed2003) | 2 mg/l to 5000 mg/l |
| | | Silica ion | TICD/SOP/411 Issue No :01 Issue Dt:01.06.2016 | 0.05 mg/l to 1070 mg/l |

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