

#### Research about -:

# TECHNICAL CERTIFICATION AND REGULATORY COMPLIANCE

- 1) Bureau of Indian Standards (BIS)
- 2) Wireless Planning And Co Ordination Wing (WPC)
- 3) Extended Producers Responsibility (EPR)
- 4) Telecommunication And Engineering Centre (TEC)
- 5) Bureau Of Energy Efficiency Certificate (BEE)

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## **BIS - BUREAU OF INDIAN STANDARDS**

#### WHAT IS BIS?

- a. Bureau of Indian Standards (BIS) is the national Standards Body of India working under the aegis of Ministry of Consumer Affairs, Food and Public Distribution, Government of India.
- b. Bureau of Indian Standards (BIS), the National Standards Body of India is engaged in the activities of Standardization, Conformity Assessment and Quality Assurance of goods, articles, processes, systems and services.
- c. The Indian Standards established by BIS forms the basis for the Product Certification Schemes, which provides Third Party Assurance of Quality, Safety and Reliability of products to consumers.

#### IS BIS CERTIFICATION MANDATORY?

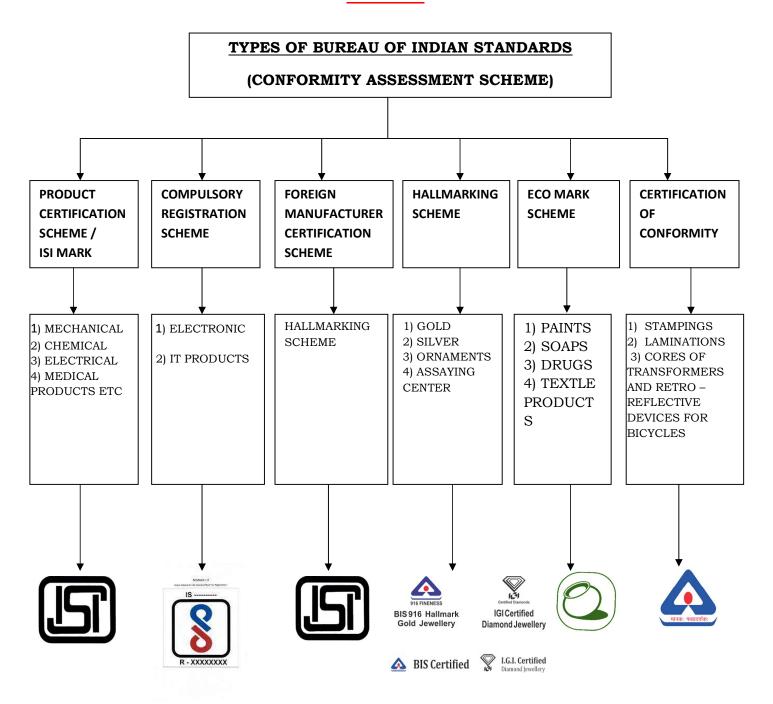
The Mandatory Registration Order 2012 was issued by the Indian Department of Electronics and Information Technology (DEIT) effective from 3<sup>rd</sup> April, 2013. Many products now have to follow Indian safety requirements and get BIS approval for electronic devices before they can be imported, shipped or sold into India. Both goods must have compulsory BIS authorization or certification approval for public health and safety. Without BIS certification, such products cannot be manufactured or sold.

#### PURPOSE OF BIS CERTIFICATION?

As new products are constantly being added to the BIS catalogue, it makes sense to clarify with the authorities the certification requirements for the individual products. In some cases, it even makes a difference when you register your product because the standards are so rapidly changing for the moment that the officials themselves are not always up to date. The list is constantly expanding and already covers a wide range of different product groups, such as construction products and materials, household products, consumer and office electronics, dairy products, and raw materials. BIS has developed eight central, four regional, and three branch laboratories in the country to check product samples during preliminary and surveillance operations. Thus, the BIS Certification is encouraged by the government for the following purposes:

- For providing a safeguard to the public health;
- For providing quality assurance;
- For protecting the consumer from hazardous products;
- For promoting consumer confidence.

### **TYPES**



#### **BIS CERTIFICATION -:**

In India, the BIS qualification is issued for products under different scheme types which include as follows -:

- 1) BIS under COMPULSORY REGISTRATION SCHEME (CRS)
- 2) BIS under DOMESTIC MANUFACTURER
- 3) BIS under FOREGIN MANUFACTURER CERTIFICATION SCHEME (FMCS)
- 4) BIS under HALLMARKING
- 5) BIS under ECO MARK SCHEME

# **BIS - COMPULSORY REGISTRATION SCHEME (CRS)**

-:

- a. According to Compulsory Registration Scheme Orders, no one shall manufacture or store for sale, sell, import, or distribute goods that do not comply with the Indian standard specified in the order and do not bear the Standard Mark with a unique registration number obtained from BIS.
- b. BIS grants license to manufacturers to use or supply Standard mark with a unique R number on electronics and IT products.

#### WHO CAN APPLY?

Manufacturers of any of 49 products notified in Compulsory Registration Order located in India or outside India can apply for the grant of Registration under Compulsory Registration Scheme (CRS).

#### **REQUIREMENT FOR BIS LICENCE -:**

#### There are four basic pillars of BIS Licence

- **a.** <u>Manufacturer</u>: The BIS licence shall be granted to the manufacturers only not to the importers or the sellers. However, the importer can act as an Authorized Indian Representative on behalf of the foreign manufacturer and submit the application to BIS but the final licence shall be granted to the manufacturer only.
- **b.** <u>Manufacturing Address</u>: If the same manufacturer having multiple factory locations for one product, then separate BIS licence shall be required for each location.

- **c.** <u>Product</u>: Each product needs separate BIS licence. However, if the same product having different models, then the same may be covered under one licence.
- **d. Brand / Trademark**: Each Brand or Trademark need separate BIS licence.

#### PROCESS TIME -:

Total Time for BIS Registration will be approx. 30 working days, including testing time (15 working days) and BIS application processing time (15 working days).

#### PRODUCTS COVERED -:

- 1) Electronic Video Games
- 2) Laptop/Notebooks/Tablets
- 3) Plasma/LCD/Led Televisions Of Screen Size 32 Inch And Above
- 4) Optimal Disc Players With Built In Amplifiers Of Input Power 200w And Above
- 5) Microwave Ovens
- 6) Visual Display Units, Video Monitors Of Screen Size 32 Inch And Above
- 7) Printers And Plotters
- 8) Scanners
- 9) Wireless Keyboards
- 10) Telephone Answering Machine
- 11) Amplifiers With Input Power 2000w And Above
- 12) Electronic Musical Systems With Input Power 200wand Above
- 13) Electronic Clocks With Main Power
- 14) Set Top Box
- 15) Automatic Data Processing Machine
- 16) Power Adaptors For It Equipments
- 17) Power Adaptors For Audio, Video And Similar Electronic Apparatus
- 18) Ups /Invertors Of Rating Less Than And Equal To 5kva.
- 19) Dc Or Ac Supplied Electronic Control Gear For Led Modules.
- 20) Sealed Secondary Cells/Batteries Containing Alkalie Or Other Non Acid Electrolytes For Use In Portable Applications.
- 21) Self Ballasted Led Lamps For General Lightning Services
- 22) Fixed General Purpose Led Luminaries
- 23) Mobile Phones
- 24) Cash Registers
- 25) Point Of Sale Terminals
- 26) Copying Machines/ Duplicators
- 27) Smart Card Readers

- 28) Mail Processing Machines/Postage Machines/Franking Machines
- 29) Passport Reader
- 30) Power Banks For Use In Portable Applications
- 31) Recessed Led Luminaries
- 32) Led Luminaries For Road And Street Lighting
- 33) Led Flood Lights
- 34) Led Hand Lamps
- 35) Led Lighting Chains
- 36) Led Luminaries For Emergency Lighting
- 37) Ups /Invertors Of Rating Less Than And Equal To 10kva.
- 38) Plasma/ LCD / LED Television Of Screen Size Upto 32 Inch
- 39) Visual Display Units, Video Monitors Of Screen Size Upto 32 Inch
- 40) CCTV Cameras/ CCTV Recorders
- 41) Adapters For Household And Similar Electrical Applicances
- 42) Usb Driven Barcode Readers, Barcode Scanners, Iris Scanners, Optical Fingerprint Scanners
- 43) Smart Watches

## **BIS - DOMESTIC MANUFACTURER -:**

ISI stands for Indian Standards Institute, the National Standards body renamed Bureau of Indian Standards in 1987. The ISI mark is the standard mark provided to the manufacturers by the Bureau of Indian Standards for various products. The ISI Mark has been considered as a mark of purity, safety and trust since 1955. The ISI mark has served as a conformity mark for industrial items. It ensures that the product complies with an Indian standard (IS) established by India's national standards organization, the Bureau of Indian Standards (BIS).

Under the BIS Act, 1986, the government of India established the National Indian certification body BIS i.e. Bureau of Indian Standards under the Indian Ministry of Consumer Protection, Food and Public Distribution. Bureau of Indian Standards is the largest Indian certification body and having an increasingly important role in managing, grading, and standardizing the quality standards of several consumer products.

#### **VALIDITY** -:

The initial validity period of the licence is one year. Licence can be renewed for further period of one/two years, subject to satisfactory operation of licence as observed during periodic inspections, factory and independent testing of samples drawn from factory and market.

#### PRODUCTS COVERED -:

The products are as follows -:

- 1) Food related products
- 2) Glass and Glassware
- 3) Cylinders and regulators
- 4) Building Materials
- 5) Primary Batteries
- 6) Rubber
- 7) Oil pressure stoves
- 8) Wire & Cables
- 9) Medical equipment
- 10) Shoes & Leather Products
- 11) Cement
- 12) Automotive
- 13) Capacitors
- 14) Aluminum
- 15) Chemicals and fertilizers
- 16) Wheel Rim & Valves
- 17) Household electrical goods
- 18) Steel Products
- 19) Electric motors and transformers

# BIS - FOREGIN MANUFACTURER CERTIFICATION SCHEME (FMCS) -:

It is a Scheme operated by the Bureau of Indian Standards since year 2000 under Scheme-I of Schedule-II, BIS Act, 2016 and (Conformity Assessment) Regulations, 2018 for foreign manufacturers. This scheme enables the overseas applicants/manufacturers to use the standard mark, which is also called ISI Mark, to sell their products in India. The foreign manufacturers Certification Department (FMCD) is the only eligible authority that can grant BIS Certificate for import to the foreign manufacturers. The major motive of BIS for granting a Manufacturing certificate to Foreign manufactures is that the public gets good quality, safe, reliable and risk-free products.

BIS FMCS Certificate in India from the FMCD department is meant for the manufacturing units located overseas, and which will undergo for factory audit to determine whether the manufacturer is complying with all the necessary requirements illustrated by BIS. It is also mandatory for foreign applicants to nominate Authorized Indian Representative (AIR). To understand all these steps, let'\*s explore the parameters in detail.

Foreign Company's have to follow some procedures, and this is where FOREIGN MANUFACTURER CERTIFICATION SCHEME takes place for product certification by the Bureau of Indian Standards under ISI mark Scheme.

### WHO CAN APPLY ?

The manufacturers, which have their factory location outside India can apply under FMCS.

#### 1. FMCS shall:

- a. Ensure conformity of their product(s) to applicable Indian Standard Specifications.
- b. Have all manufacturing machineries/facilities at their factory premises.
- c. Have all arrangements/equipments in their factory premises for testing of the product(s) as per applicable ISS.
- d. Have competent testing personnel in their lab to test the product(s) as per applicable ISS.
- e. Accept the Scheme of Testing and Inspection (SIT) and Marking Fee.
- f. Accept the Terms & Conditions of licence.
- 2. Foreign manufacturers who want to export their product to India, first need to get a manufacturer certificate from Bureau of Indian Standards (BIS).

<u>Note</u>: Separate application is required to be submitted for each product/Indian Standard and for each factory location manufacturing premise(s).

#### **TIMELINE FOR BIS LICENCE** -:

The average time taken for Grant of Licence is approximately 6 months from the date receipt of complete application and its recording. The rest depends upon the circumstances. It may vary for certain reasons like delay from applicants in response to queries raised, if any, delay in organizing inspection or testing of the sample, remittance of dues, etc.

### **BIS - HALLMARKING -:**

Hallmarking is the accurate determination and official recording of the proportionate content of precious metal in precious metal articles. Hallmarks are thus official marks used in many countries as a guarantee of purity or fineness of precious metal articles.

A hallmark is an official mark or sequence of marks stamped on metal products, usually to confirm the number of noble metals like platinum, gold, silver, and palladium in some countries. The BIS hallmarking scheme for gold and silver is accessible, and in India hallmarking is required to confirm the metal's purity before introducing the Gold & Silver products to consumers.

In order to protect consumers from adulteration and to obligate jewellers to maintain a legal standard of purity, the Bureau of Indian Standards (BIS) launched a Jewellers Registration scheme. BIS launched the gold hallmarking scheme in 2000 and a silver hallmarking scheme in 2005.

#### PRODUCTS COVERED -:

In INDIA at present two precious metals namely GOLD and SILVER have been brought under the purview of Hallmarking.

NOTE - Jewellery = A jeweler who wants to sell hallmarked jewellery has to obtain a registration from BIS.

According to this scheme, the BIS hallmark license is mandatory to MANUFACTURE or SELL GOLD or SILVER jewellery.

The process of BIS Hallmarking involves three major sections Homogeneity Test, Purity Test & product marking.

Outside of the sales outlet, the registered jeweller shall display the logo of BIS with the wording "Hallmarked Jewellery available for sale".

## **BIS - ECO MARK SCHEME -:**

The Bureau of Indian Standard (BIS) issues the ECO – MARK as a certification mark for products that are environmentally friendly and meet the BIS standards.

The Ministry of Environment, Forests and Climate Change is in charge of the ECO-MARK scheme. The ECO-MARK logo, which may be found on products manufactured all over India, complies with environmental sustainability criteria. The fundamental requirement for this type of symbol is to improve change across society.

The presence of this logo on items would ensure that sustainable development is widely distributed across society. ECO Mark Scheme was instituted by the Government of India for labelling of environment friendly products. The Scheme is being administered by the Bureau of Indian Standards.

The Scheme covers various product categories like

- a) Soaps and Detergents, Paints,
- b) Food Items, Lubricating Oils,
- c) Packing/Packaging Materials,
- d) Architectural Paints and Powder Coatings,
- e) Batteries, Electrical and Electronic Goods,
- f) Food Additives, Wood Substitutes,
- g) Cosmetics,
- h) Aerosols and Propellants,
- i) Plastic Products,
- i) Textiles,
- k) Fire-extinguisher,
- 1) Leather and
- m) Coir & Coir Products.

The presence of ECO Logo along with ISI Mark on a product indicates that the product meets certain Environmental criteria along with the Quality requirements as specified in the relevant Indian Standard.

# **WPC** = **WIRELESS PLANNING AND CO-ORDINATION WING** -:

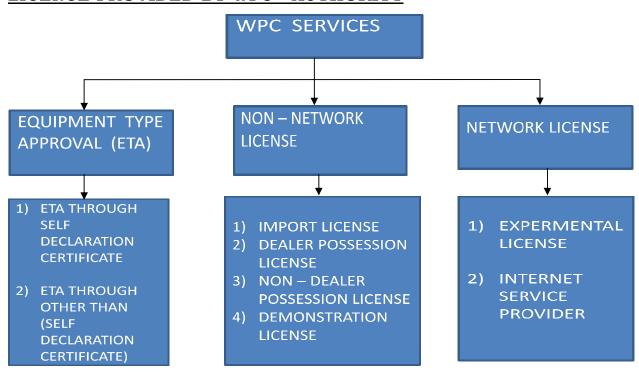
Wireless Planning and Coordination Wing (WPC) is a wing of Department of Telecommunications coming under the Ministry of Communications of the Government of India. The department is responsible for issuing amateur radio licenses, allotting the frequency spectrum and monitoring the frequency spectrum. The certification process includes the application, evaluation and testing of the product before the WPC certificate and ETA (Equipment Type Approval) certification number is issued.

#### WHO CAN APPLY?

All manufacturers, importers, traders, and suppliers must fulfill compliance and regulatory requirements of WPC certificate/ETA certificate. To understand the WPC Certification (ETA certificate) requirements and procedure for WPC license for Bluetooth and Wi-Fi-enabled devices, let's take a closer look about WPC India.

A WPC certificate is required for anyone who wants to do a wireless device business in India. Manufacturers and importers of Bluetooth and Wi-Fi-enabled devices must receive WPC license (ETA certificate) from Wireless Planning & Coordination wing, India.

#### LICENCE PROVIDED BY WPC - AUTHORITY



#### PRODUCTS COVERED -:

Permission from Wireless Planning and Coordination Wing (WPC) is required for importing any radio equipments in India, including -:

- 1. Walkie -Talkie,
- 2. RC cars/Boats,
- 3. Drones/UAV,
- 4. Zig Bee,
- 5. Bluetooth devices, etc.
- 6. Wireless Barcode Scanner
- 7. Wireless Keyboard
- 8. Wireless Music Player
- 9. Wireless POS Terminal
- 10. Wireless Speaker
- 11. Wireless Terminal
- 12. Bluetooth headphone
- 13. Wireless Hotspot Device
- 14. Laptop
- 15. Wireless Microphone
- 16. RFID Reader
- 17. Wireless Mouse
- 18. WIFI Router
- 19. Smart watch
- 20. Wireless Bluetooth-Watches,
- 21. Wireless Water Heaters,
- 22. Wireless Home Appliances,
- 23. Wireless Car Radio,
- 24. Radio Frequency Identification (RFID) tags and readers,
- 25. Wireless Medical products used for patient profiling, Laptops, Mobile Phones.
- 26. Remote Key for entry, Wireless Headphones and/or Earplugs, Wireless Music Players, and any other Radio Frequency Modules.

**NOTE** - Mandatory requirements for all wireless products (transceivers, transmitters and receivers) entering the Indian market. Imports of radio equipments into India, without prior permission from Wireless Planning & Coordination Wing (WPC), will be confiscated by Customs at point of entry.

## (EPR) - EXTENDED PRODUCERS RESPONSIBILITY

#### **INTRODUCTION -:**

E-waste is one of the world's fastest-growing trash streams. India currently produces nearly 50 million tonnes of it per year, and the number is going to rise as electronic products become more widely available. E-waste, or electronic garbage, refers to obsolete, unwanted, or defective electrical and electronic equipment. That includes everything from smart phones to refrigerators that have reached the end of their useful lives.

E-waste contains a laundry list of compounds that are hazardous to humans and the environment, including mercury, lead, beryllium, and cadmium, to name a few. These chemicals get up in our land, water, and air when electronics are mismanaged during disposal. Because electronic devices contain the most lethal chemicals and metal, e-waste is far more toxic than much other municipal garbage. Long-term exposure to these chemicals harms the brain, kidney, bone systems, and the reproductive and endocrine systems.

#### **EPR MANDATORY PRODUCT LIST -:**

#### TWO major product categories require EPR Authorization as follows -:

- A. Information Technology and Telecommunication equipment
- B. Consumer Electrical and Electronics

# A. <u>INFORMATION TECHNOLOGY AND TELECOMMUNICATION</u> <u>EQUIPMENT</u> -:

The Products are as follows -:

- 1. Centralized Data Processing: Mainframes, Mini-Computers, Personal Computers, Laptop, Notebook Computers and accessories, Notepad
- 2. Printers including components
- 3. Copying Equipment
- 4. Electrical and Electronic Typewriters
- 5. User Terminals and Systems
- 6. Facsimile
- 7. Telex
- 8. Telephones
- 9. Pay Telephones
- 10. Cordless Telephones
- 11. Cellular Telephones

### B. CONSUMER ELECTRICAL AND ELECTRONICS -:

The Products are as follows -:

- 1. LCD and LED Television Sets
- 2. Refrigerator
- 3. Washing Machine
- 4. Air-Conditioners excluding Centralized Air Conditioning Plants
- 5. Fluorescent and other Mercury containing lamps

# TEC - TELECOMMUNICATION ENGINEERING CENTRE

#### **INTRODUCTION -:**

TEC stands for Telecommunication Engineering Centre. TEC assists the Government of India's Department of Telecommunications (DoT) in the development and implementation of different standards and policies for the safe and secure use of emerging technologies in telecommunications. TEC had published specifications for telecom equipment quality measures. Generic Requirements (GRs), Interface Requirements (IRs), and Service Requirements are the three types of specifications (SR).

#### PRODUCTS UNDER TEC APPROVAL -:

- 1. Optical Fibre (Single Mode)
- 2. Point Of Sale Devices
- 3. Repeater For Cellular Network
- 4. Router
- 5. Transmission Terminal Equipment Dwdm Dxc
- 6. Hf Radio
- 7. Ip Multimedia Conferencing Equipment
- 8. Ip Security Equipment
- 9. Lan Switch
- 10. Media Gateway
- 11. Mobile Radio Trunking System

#### TYPES OF VOLUNTARY TESTING CERTIFICATION -:

Certification is totally based on the testing parameters and as per the conditions mentioned in the Technical standards.

- a) Type Approval
- b) Interface Approval
- c) Certificate of Approval
- d) Technology Approval

# MANDATORY TESTING AND CERTIFICATION OF TELECOM EQUIPMENT -:

Telecom equipment must undergo mandatory testing and certification prior to sale, import, or usage in India, according to the Indian Telegraph (Amendment) Rules, 2017. The testing is to be carried out for conformance to Essential Requirements (ER) for the equipment, by Indian Accredited Labs designated by TEC and based upon their test reports; a TEC certificate shall be issued by Telecommunication Engineering Centre.

#### **TYPES -:**

- a. PRODUCTS (ESSENTIAL REQUIREMENTS) COVERED UNDER PHASE III OF MTCTE.
- b. PRODUCTS (ESSENTIAL REQUIREMENTS) COVERED UNDER PHASE-IV OF MTCTE.

#### LIST OF PRODUCTS COVERED UNDER -:

# a. PRODUCTS (ESSENTIAL REQUIREMENTS) COVERED UNDER PHASE-III OF MTCTE

- 1. Base Station for cellular network
- 2. Repeater for Cellular Network
- 3. Compact Cellular Network
- 4. Smart Camera
- 5. Smart Watch
- 6. Smart electricity Meter
- 7. Tracking Device (with embedded SIMs)
- 8. IOT Gateway
- 9. End Point device for Environment Monitoring
- 10. Equipment Operating in 2.4GHz and 5 GHz Band

# b. PRODUCTS (ESSENTIAL REQUIREMENTS) COVERED UNDER PHASE-IV OF MTCTE

- 1. Transmission Terminal Equipment (DWDM, DXC)
- 2. Optical Fibre (Single Mode)
- 3. Satellite Communication Equipment
- 4. Radio Broadcast Receiver
- 5. Mobile Radio Trunking System
- 6. HF Radio
- 7. VHF/UHF Radio System Equipment
- 8. PTP/PMP Microwave Fixed Radio Systems
- 9. IP Security Equipment

- 10. Router
- 11. LAN Switch
- 12. Precision Timing Protocol Grand Master Equipment
- 13. Mobility Management Entity (MME)
- 14. Point of Sales Devices
- 15. IP Multi Media Conferencing Equipment
- 16. Conferencing Equipment
- 17. Signaling Gateway
- 18. Media Gateway

# **BEE** - **BUREAU OF ENERGY EFFICIENCY** -:

#### **INTRODUCTION -:**

The Government of India has implemented the innovative initiative to conserve energy under the provision of the Energy Conservative Act, 2001 - BUREAU OF ENERGY EFFICIENCY (BEE). In performing its functions under the Energy Conservation Act, BEE plays a key role in coordinating with designated customers, designated agencies, and other organizations and recognizing, identifying, and utilizing existing resources and infrastructure. The Energy Conservation Act regulates and promotes energy conservation.

BEE has run a standard and labelling program since 2006 under the provision of the EC act. The primary goal of this programme is to inform consumers about the energy- saving and thus cost-saving potential of the relevant marketed product. The program requires energy performance labels to be displayed on high-energy end-use equipment and appliances, as well as the establishment of minimum energy performance standards. This Program includes establishing minimum energy performance standards (MEPS) for appliances and equipment, as well as rating energy performance on a scale of 1 to 5, with 5 stars being the most energy-efficient.

BEE stands for Bureau of Energy Efficiency and government agency which works under the Ministry of Power. This agency develops a program that convinces everyone to use energy efficiently and increases the conservation of energy.

Another important function of BEE is to set the standards and label for marking star-rating of various appliances. When a manufacturer creates a new model and wants to get it certified, they conduct testing on it according to BEE's protocols and then apply for star certification using the results of the tests. BEE assigns a star rating to appliances based on the results of the tests.

# WHY DOES A PRODUCT NEED A BEE – RATING CERTIFICATE

5

- BEE Raise awareness of energy efficiency and conservation and share information about it. A BEE-rating certificate is required to demonstrate a product's level of performance and electricity usage. Indicators of product efficiency and performance in terms of electricity consumption are included in the certificate.
- 2) The Bureau of Energy Efficiency's purpose is to "institutionalize" energy efficiency services, enable delivery methods across the country, and lead energy efficiency in all industries.

#### PRODUCTS COVERED UNDER MANDATORY BEE LABELLING

- 1. Frost Free (No-Frost) Refrigerator
- 2. Tubular Fluorescent Lamps
- 3. Room Air Conditioners
- 4. RAC (Cassette, Floor Standing Tower, Ceiling, Corner AC)
- 5. Distribution Transformer
- 6. Direct Cool Refrigerator
- 7. Electric Geysers
- 8. Color TV
- 9. Variable Capacity AIR Conditioners
- 10. LED Lamps

#### PRODUCTS COVERED UNDER VOLUNTARY BEE LABELLING

- 1. Agri induction Motors
- 2. Agricultural Pump Sets
- 3. Ceiling Fans
- 4. Lpg Stoves
- 5. Washing Machines
- 6. Diesel Engine Driven Mono-Set Pumps For Agricultural Purposes
- 7. Laptops/Notebooks
- 8. Ballast (Electronic/Magnetic)
- 9. Office Equipments
- 10. Solid-State Inverters
- 11. Diesel Generator
- 12. Chillers
- 13. Microwave Ovens
- 14. Solar Water Heaters
- 15. Light Commercial Air Conditioners
- 16. Deep Freezers
- 17. HD Televisions
- 18. Air Compressor
- 19. High Energy Li-Battery
- 20. Tyres