



**GOVERNMENT OF GOA**

**REPORT ON**

**INDEX OF INDUSTRIAL PRODUCTION IN GOA  
DURING -2016-17**

**(BASE YEAR 2011-12)**



**ELECTRICITY SECTOR**



**MINING SECTOR**



**MANUFACTURING SECTOR**

**DIRECTORATE OF PLANNING, STATISTICS AND EVALUATION,  
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PORVORIM, BARDEZ- GOA.**

## PREFACE

The Index of Industrial Production measures in the behavior of Industrial Production. It helps in analyzing structural changes that are taking place in the sector over a period of time with reference to the base year.

Since, mining and electricity are both important activities along with manufacturing sector in the State, separate indices have been compiled for these sectors.

The Base year for the construction of the series of Index Numbers of Industrial Production in n Goa has been changed from time to time. The present change in the base year to 2004-2005 to 2011-12 is in accordance with the guidance of Central Statistical Office, ESD, Mospi, Government of India.

This is the thirty fifth report on Index numbers since inception, and the third in the revised series with the base year 2011-2012

It is hoped that, this publication would be useful to those who are involved in the developmental planning of industrial sector. The co-operation extended by the industrial units in Goa, by supplying data is gratefully acknowledged. We are thankful to the staff of Industrial Statistics wing, Central Statistical Office, ESD, Government of India, for providing valuable guidance from time to time. Also, our sincere thanks to Indian Bureau of Mines, Nagpur and Central Electricity Authority for making available data on the website for both sectors.

I wish to place on record my appreciation for all the officers and staff members of NSS Division for their dedicated efforts in bringing out his publication. I also place on record my appreciation for factory management who had extended their all Co-operation to our office in submitting the data as per our requirement.

Suggestions for improvement in publication are most welcome.

Place: Porvorim

(Dr. Y. Durga Prasad )

Date:

DIRECTOR

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## INTRODUCTION

### BACKGROUND

Industrial sector plays a vital role in the economic development of a region. The development in the industrial sector is measured by means of a tool called “Index of Industrial Production” (IIP). This statistical device is one of the most important macro-economic indicators, indicating the magnitude of industrial output over a given period compared to the reference period. The growth in production is measured with reference to the base period to assess the performance of the industrial sector. The index is used extensively in policy planning by the Government in public sector as also by other Organizations and Researchers, Industrialists, Economists, Administrators, etc.

The Directorate of Planning, Statistics and Evaluation took up the task of constructing the Index of Industrial Production (Mining and manufacturing sector) from the year 1971 onwards with base year 1970 = 100. The index series was based on the information collected from factories registered under the Factories Act, 1948 and functioning within the jurisdiction of Goa. Subsequently, the base year was changed from 1970 to 1975 as a result of big strides taken by the industrial sector in Goa.

Further, as per the guidelines received from the Central Statistical Office, ESD, Mospi, New Delhi, the base year was revised to 1980-81=100 by covering more items in the basket to reflect the industrial growth more adequately. The change of base year from 1980-81=100 to 1993-94=100 for providing a comparable state level Index of Industrial Production was initiated by Central Statistical Office, ESD, Mospi, New Delhi, as per the assurance given by the Prime Minister to the Parliament in April 1993. Under the “Comparable state level Index of Industrial Productions”, all the states in India adopt a common base year with common methodology for a uniform compilation of Indices.

In order to maintain synchronization with the base year of all India IIP and capture structural changes in the industrial sector in the State/UT's the base year of Comparable State level IIP's has been shifted from 2004-2005=100 to 2011-12=100.

This is the 35th report in the series since its inception in the state and the 3<sup>rd</sup> in the revised series of 2011-12. This issue covers the indices for the year 2016-17 for Electricity, Mining as well as Manufacturing sectors along with combined indices for all the three sectors.

## **SCOPE AND COVERAGE**

The scope of Index of Industrial Production has been confined to Electricity sector, Mining sector and Manufacturing sector. The manufacturing sector is restricted to the industries registered under section 2(m) (i) and 2 (m) (ii) of the factories Act, 1948 and are functioning within the jurisdiction of the Goa state.

## **COLLECTION OF DATA SOURCE**

- 1) The monthly Electricity Generation figures (power plant wise) for computation of Electricity Index is provided by Central Electricity Authority (CEA), on the website.
- 2) The mineral data for computation of mining index is obtained from the website of Indian Bureau of Mines (IBM), Nagpur.
- 3) The manufacturing index computed is based on the month-wise production data collected Under the provision of the Collection of Statistics Act, 2008 ( 7 of 2009) and Rules framed there under in 2011, from the selected factories by issuing letters from this Directorate. Delayed cases are contacted over telephone or by personal visits of the staff of this Directorate.

## **BASE YEAR**

The base year for calculation of the Index Numbers of Industrial Production in respect of Electricity, Mining and Manufacturing sector is 2011-12. It was revised from the earlier base of 2004-2005 as per the guidelines of the Central Statistical Office, ESD, Mospi, New Delhi.

## **ITEM BASKET**

The Index of Industrial Production (IIP) constitutes of Mining, Manufacturing and Electricity Sector. Out of these 3 sectors Mining and Electricity are in the form of composites Index. The Item Basket and weight of Mining are decided and provided by the Indian Bureau of Mines (IBM) to Central Statistical Organization (CSO), based on the data provided by the Department of Mines in the respective State. The Electricity Sector is the single item, hence no apportioning of weight is done.

The CSO, NSSO, MoSPI Kolkata has furnished new weighing diagram and item basket of 78 along with list of 80 selected factories and 61 as reserved factories for Manufacture Sector . Further, as per direction of CSO, list of 5 factories for each item has been prepared with consultation of the Chief Inspectorate of Factories and Boilers, in the State of Goa.

In manufacturing sector, an exercised has been made with 356 to cop up 5 factories for each item as per the guidelines of the MoSPI given for State IIP frame in the item basket. After thoroughly investigation with this factory as regards to the closer of factories, change of production and non-manufacturing items in the state 205 factories panel has been made. Accordingly, weight has been also re-distributed in to the available items as mention below:

- 1) **Manufacturing of Textile:** Weight of Knitted Fabrics, Cloth Cotton as not manufactured in the state has re-distributed to other 18 Manufacturing Sub-sector in proportion to the percentage of weight of Sub Sector.
- 2) **Manufacturing Food Products:** Coconut oil refined was not manufactured of which weight has been re-distributed within 7 items from same sub-sector of food products.
- 3) **Manufacturing of Pharmaceuticals, Medicinal Chemical and Botanical Products: -** Injection pump for diesel engines, weight has re-distributed within 11 items in that particular manufacturing sub- sector.
- 4) **Manufacture of Computer, Electronic and Optical Products:** Computer and Air Combat Stimulators weight has re-distributed within 5 items in that same manufacturing sub-sector
- 5) **Manufacture of Electrical Equipment Products:** Acrylic panels and bulbs glass weight has re-distributed within 6 items in that particular manufacturing sub-sector
- 6) **Other Manufacturing products:** Medical, Surgical Dental or Veterinary Furniture, Barbers chairs and similar chairs having rotating as well as both reclining and elevating movements, weight has re-distributed within 2 items in that particular manufacturing sub-sector has been re-distributed.
- 7) Grouping of 11 items in to 6 items group due to non availability of no. of factories and production data to cop up with 5 factories list in the Manufacturing Sector.

Accordingly, 64 item baskets for Manufacturing Sector has been finalized on re-distributing of weights.

### **ESTIMATION PROCEDURE**

The Index of Industrial Production in new series is with base 2011-12 has been computed by using laspeyre's formula. It is a simple weighted arithmetic mean as given below

$$I = \frac{\sum W_i R_i}{\sum W_i}$$

Where,

I -the Index of Industrial Production  
R<sub>i</sub> -the production relative for the i-th item and  
W<sub>i</sub> - the corresponding weight

**TABLE NO. 1**

**Annual Item wise Index of Industrial Production for the year 2014-15, 2015-16 & 2016-17**

**(BASE 2011-12 = 100)**

Sr. No.	NIC Code	Item Description	Weight Base year 2011-12	2014-15	2015-16	2016-17
1	2	3	4	5	6	7
<b>ELECTRICITY SECTOR</b>						
<b>35 Electricity, Gas, Steam and Hot Water Supply</b>						
1	3510	Generation of Electricity	58.26	4.55	0.00	0.00
<b>A) Total (ELECTRICITY SECTOR)</b>			<b>58.26</b>	4.55	0.00	0.00
<b>MINING SECTOR</b>						
<b>07 Mining of Metal Ores</b>						
1	0710	Iron Ore	318.76	0.00	0.01	0.04
2	0729	Manganese Ore	0.1835	0.00	0.00	0.00
3	0729	Bauxite	0.8201	277.40	366.81	0.00
<b>B) Total (MINING SECTOR)</b>			<b>319.76</b>	277.40	366.82	0.04
<b>MANUFACTURING SECTOR</b>						
<b>10. Manufacture of food Products</b>						
1	1020	i) Fish Meat, Fresh/Fish Frozen or otherwise	2.3178	114.96	90.68	110.92
2	1050	ii) Milk skimmed or pasturised, non-flavoured	0.6976	107.65	120.38	116.46
3	1050	iii) Icecream	0.2252	135.88	142.04	139.77
4	1061	iv) Wheat flour	0.0397	96.40	68.50	100.04
5	1071	v) Cashewnut and shelled	5.0684	90.01	85.64	61.16
6	1073	vi) Chocolate and other food preparation containing cocoa(except sweetened coca	20.3618	90.68	82.16	90.01
7	1074	vii) Noodles	14.7195	78.06	39.15	57.20
<b>11.Manufacture of beverage</b>						
8	1103	i) Alcoholic Beverages	5.3255	93.80	94.13	89.98
9	1104	ii) Soft drink carbonated beverage other than soda water	2.2168	97.38	113.10	139.30
<b>17. Manufacture of Paper and Paper Products.</b>						
10	1702	i) Corrugated paper board	0.6023	79.80	72.81	66.07
11	1702	ii) Boxes, Corrugated sheets	0.4563	94.26	108.52	105.95
12	1702	iii) Cardboard Boxes	0.6743	256.09	246.45	284.03

		<b>18.Printing and reproduction of recorded media</b>				
13	1811	i) Newspaper and daily	3.5089	75.30	86.11	80.23
		<b>19.Manufacture of Coke, refined petroleum products</b>				
14	1920	i) Liquidified Petroleum gas (LPG)	2.6101	100.42	107.05	114.26
15	1920	ii) Petroleum coke calcined	1.0373	58.46	102.27	84.35
		<b>20 .Manufacture of Chemicals and Chemical products</b>				
16	2012	i) Urea	16.6930	99.44	109.34	105.94
17	2023	ii) Soap toilet (excluding baby soap	5.6795	0.11	0.11	0.09
18	2023	iii) Toothpaste, non-medicated	14.8010	123.19	105.67	97.98
		<b>21. Manufacture of Pharmaceuticals medicinal Chemical and botanical Products</b>				
19	2100	i) Doxycycline / Minocycline	8.2712	154.04	76.75	82.97
20	2100	ii) Metronidazole with/ out, norfloxacin	3.8514	121.30	135.81	122.38
21	2100	iii) Vitamin E (tocophero) And Other vitamin in tablet or injectable form	16.1011	278.86	1.66	1.92
22	2100	iv) Anti cancer and Anti Malaria	68.7687	26.91	40.13	119.06
23	2100	v) Anti-diabetic drugs excluding insulin ( metformin, pioglitazone, glimepiride etc)	5.2153	156.43	182.48	192.52
24	2100	vi) Anti hitamine,antistine antitussive (codeine ect)prep	10.1045	65.75	64.93	39.16
25	2100	vii) Lisinopril/ramipril/enalapril maleate a.c.e inhibitor	6.2105	2.42	2.08	2.14
26	2100	viii) Ointments, allopathic	11.6818	310.50	509.93	476.32
27	2100	ix) Capsules Plastic	5.4854	182.25	787.02	1195.10
		<b>22.Manufacture of Rubber and Plastic products</b>				
28	2211	i) Tyre/tube other	36.2123	116.80	124.81	122.82
29	2211	ii) Flaps rubber	10.6678	100.04	83.57	87.08
30	2220	iii) Container plastic	15.7592	138.68	135.30	132.57
31	2220	iv) Plastic bottle caps	34.3406	73.46	61.70	58.98
		<b>23.Manufacture of other Non-metallic mineral products</b>				
32	2394	i) Cement, Portland	3.8480	88.89	80.89	78.31
33	2395	ii) Other article of cement, concrete or artificial	3.9312	71.64	77.89	77.70
		<b>24.Manufacture of Basic Metals</b>				
34	2410	i) Ingots iron	231.5327	66.90	73.19	66.96
35	2420	ii) Manganese dioxide	9.6799	59.72	44.87	55.11



36	2420	iii) Aluminum tube, pipes alloyed	3.1613	115.93	108.50	113.27
37	2431	iv) Cast iron	0.5146	138.39	125.73	119.26
38	2431	v) Valves, industrial	0.1715	102.92	89.04	65.40
		<b>25.Manufacture of Fabricated metal products, except Machinery and equipments</b>				
39	2511	i) Hume pipes	0.2254	139.87	168.08	113.91
40	2511	ii) Buckets, shovelsgrabs and the like	0.1840	568.09	332.21	497.32
41	2592	iii) Artificial graphite, colloidal or semi-colloidal graphite preparations based on graphite or other	0.5462	11.17	1.52	0.51
42	2593	iv) Saw & Saw blades	2.4675	46.24	46.00	46.52
		<b>26.Manufacture of computer, electronic and optical</b>				
43	2610	i) Capacitor, metalized poly film	2.5425	300.60	344.24	354.35
44	2620	ii) Computer Peripherals	0.2162	43.96	52.17	48.40
45	2630	iii) Toys plastic moulded other	0.4768	82.42	124.57	222.25
46	2651	iv) Instruments and apparatus for measuring or checking the flow, level, pressure or their variables of liquids or gases, except	1.8160	117.18	128.28	40.58
47	2651	v) Machines and appliances for testing the mechanical properties of materials	0.7136	48.24	39.64	28.47
		<b>27.Manufacture of Electrical equipment</b>				
48	2710	i) Centrifuge motors or Electrical motors	1.3940	133.58	108.13	162.24
49	2710	ii) Parts of electricity distribution of control apparatus	0.3756	227.72	220.93	185.94
50	2731	iii) Optical fibre cables made up of individually sheaterd	5.7226	148.71	160.37	212.52
51	2750	iv) Electric Fans and ventilating or recycling hoods of the domestic type	2.1696	131.72	143.57	150.72
52	2790	v) Fabricated metal product	0.1223	88.85	93.31	104.10
53	2790	vi) Instruments and apparatus(except cathode-ray oscilloscopes and oscillegraphs) for telecommunications	0.1109	422.81	660.72	274.66
		<b>28.Manufacture of Machinery &amp; equipment</b>				
54	2811	i) Internal combustion piston engines other	1.1753	130.42	65.80	55.14
55	2813	ii) Concrete pump	1.3393	73.18	80.65	101.54
56	2821	iii) Washing machine/laundry machine	4.2007	136.80	203.92	245.99
		<b>29.Manufacture of Motor Vehicles, trailers and Semi-Trailers and semi trail</b>				
57	2920	i) Body for other vehicle	3.1336	12.50	23.48	19.19

58	2930	ii) Seat for motor vehicle	0.2123	134.40	148.76	163.03
		<b>30.Manufacture of other Transport equipment</b>				
59	3011	i) Other vessels for the transport of goods and other vessels For the transport	2.7576	100	50	0
60	3011	ii) Barges excl. hopper	2.3129	5	10	12.5
		<b>31.Manufacture of Furniture</b>				
61	3100	i) Chair steel office	0.1620	177.73	672.51	795.56
62	3100	ii) Table & desks iron/steel	0.1380	11.71	6.25	9.14
		<b>32.Other Manufacture</b>				
63	3250	i) Lens, ophthalmic	1.0441	58.22	128.61	178.86
64	3250	ii) Toothbrush	3.8759	146.88	147.47	159.22

**TABLE NO.2**  
**CAMPARISON OF ANNUAL INDEX OF INDUSTRIAL PRODUCTION**  
**SECTOR LEVEL AND BASE YEARS**  
**(BASE 2011-12=100)**

Sl. No.	Industrial Sector	Weight	Index	Weight		Index			
		Base year 2004-05		Base Year 2011-12					
			2011-12	2012-13	2013-14		2014-15	2015-16	2016-17
1	Electricity	57.43	82.47	67.06	72.42	58.26	4.55	0.00	0.00
2	Mining	136.82	245.65	79.37	0.68	319.76	0.71	0.95	0.04
3	Manufacturing	805.75	105.60	115.66	106.54	621.98	88.19	91.82	101.76
<b>Combined Index</b>		<b>1000.00</b>	<b>123.43</b>	<b>107.90</b>	<b>90.09</b>	<b>1000.00</b>	<b>55.35</b>	<b>57.41</b>	<b>63.30</b>

**TABLE NO.3**  
**INDEX OF INDUSTRIAL PRODUCTION**  
**MANUFACTURING, ELECTRICITY AND MINING SECTOR AND COMBINE**  
**(MONTH-WISE GROUP LEVEL INDICES FOR THE YEAR 2016-17)**  
**(BASE 2011-12=100)**

Sr. No.	Industrial Sector	Weight	2016-17											
			April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Electricity Index	58.26	0	0	0	0	0	0	0	0	0	0	0	0
2	Mining Index	319.76	0.04	0.06	0.01	0.00	0.00	0.00	0.02	0.06	0.09	0.06	0.05	0.07
3	Manufacturing Index	621.98	96.61	112.58	111.54	91.27	97.81	109.44	106.82	110.64	98.27	99.00	95.10	92.01
<b>Combined Index</b>		<b>1000.00</b>	<b>60.11</b>	<b>70.04</b>	<b>69.38</b>	<b>56.77</b>	<b>60.84</b>	<b>68.07</b>	<b>66.44</b>	<b>68.83</b>	<b>61.15</b>	<b>61.60</b>	<b>59.17</b>	<b>57.25</b>

Graph of Month Wise Index of Industrial Production 2016-17

