

**Discipline : MECHANICAL ENGINEERING**

Sl. No.	Academic Course	Semester	Subject under the Semester	Topic of the BIS Lecture	Time slot required	IS No.	Title
1	B.E/B.Tech		Mechanics of Solid	<b>Standardization in Gas Cylinders</b>	90 min.	IS 3196 (Part 1) : 2013, IS 15490 : 2017, IS 17613 : 2021	<p>IS 3196 (Part 1) : 2013 - Welded low carbon steel cylinders exceeding 5 litres water capacity for low pressure liquefiable gases: Part 1 cylinders for liquefied petroleum gases (LPG) – Specification</p> <p>IS 15490 : 2017 - Seamless steel cylinders for on - Board storage of compressed natural gas as a fuel for automotive vehicles – Specification</p> <p>IS 17613 : 2021 - Gas cylinders refillable welded aluminium alloy cylinders design construction and testing</p>

Sl. No.	Academic Course	Semester	Subject under the Semester	Topic of the BIS Lecture	Time slot required	IS No.	Title
2	B.E/B.Tech		Refrigeration, Air-Conditioning and Psychrometrics	<b>Standardization in Refrigeration and Air Conditioning</b>	90 min.	IS/IEC 60335-2-40: 2018, IS 16656 : 2017/ISO 817 : 2014 and IS/IEC 60335-2-89: 2010	IS/IEC 60335-2-40 : 2018 - Household and Similar Electrical Appliances — Safety Part 2-40 Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers  IS 16656 : 2017/ISO 817 : 2014 - Refrigerants - Designation and safety classification  IS/IEC 60335-2-89: 2010 - Household and Similar Electrical Appliances — Safety Part 2-89: Particular Requirements for Commercial Refrigerating Appliances with an Incorporated or Remote Refrigerant Unit or Compressor
3	B.E/B.Tech		Fluid Machinery	<b>Standardization in Pumps</b>	90 min.	IS 8034 : 2018, IS 1710 : 2021, IS 17018 (Part 1):2018, IS 6595 (Part 1): 2018	IS 8034 : 2018 - Submersible pumpsets – Specification  IS 1710 : 2021 - Vertical Turbine Pumps - Specification ( Third Revision )  IS 17018 (Part 1):2018 - Solar photovoltaic water pumping systems Part 1 centrifugal pumps - Specification  IS 6595 (Part 1): 2018 - Horizontal centrifugal pumps for clear cold water - Specification Part 1 agricultural and rural water supply purposes (Fourth Revision)

Sl. No.	Academic Course	Semester	Subject under the Semester	Topic of the BIS Lecture	Time slot required	IS No.	Title
4	B.E/B.Tech		Fluid Machinery	<b>Standardization in Compressors</b>	90 min.	IS 5456: 2006, IS/ISO 1217:2009, IS 17093: 2019 and IS 15661: 2006	IS 5456 : 2006 - Testing of positive displacement type air compressors and exhausters - Code of practice (Second Revision)  IS /ISO 1217 : 2009- Displacement Compressors Acceptance Test  IS 17093 : 2019 - Technical supply conditions for reciprocating air compressors for general purpose and industrial applications  IS 15661 : 2006 - Petroleum, Chemical and Gas Service Industries - Centrifugal Compressors
5	B.E/B.Tech		Internal Combustion Engine	<b>Standardization Internal Combustion Engine</b>	90 Minutes	IS 810, IS 7449, IS/ISO 8528 Series , IS/ISO 8178,	Internal combustion engines Engine valves - Specification Glossary of terms for IC Engines Fuel injection equipment
6	B.E/B.Tech		Machining Science and Metrology	<b>Geometrical Tolerances</b>	90 Minutes	IS 8000 (Part 1) : 20	Geometrical product specifications (GPS) — Geometrical tolerancing: Part 1 Tolerances of form, orientation, location and run-out (Second Revision)

Sl. No.	Academic Course	Semester	Subject under the Semester	Topic of the BIS Lecture	Time slot required	IS No.	Title
7	B.E/B.Tech		Machine Design	<b>Dynamic loading and component design</b>	90 Minutes	IS 2399 : 2019 IS 3090 : 1965 IS 3823 : 2014 IS 3824 : 2014 IS 6455 : 2020	Rolling Bearings — Vocabulary ( Second Revision ); Code of practice for installation and maintenance of rolling bearings Rolling bearings - Static load ratings (Third Revision) Rolling bearings - Dynamic load ratings and rating life (Third Revision) Single Row Deep Groove Ball Bearings — Specification ( First Revision )
8	B.E/B.Tech		Work System	<b>Ergonomics</b>	90 Minutes	IS 13214 : 1991; IS 16572 : 2017 /ISO 14738 : 2002	Machine Tools - Ergonomics Anthropometric Terminology; Safety of machinery - Anthropometric requirements for the design of workstations at machinery
9	B.E/B.Tech		Machining Science and Metrology	<b>Tolerances on Linear Sizes</b>	90 Minutes	IS 919 : Part 1 : 2014 ISO 286-1 : 2010 IS 919 : Part 2 : 2014 ISO 286-2 : 2010	Geometrical Product Specifications (GPS) - ISO Code System for Tolerances on Linear Sizes Part 1 Basis of Tolerance, Deviation and Fits (Third Revision) Geometrical product specifications (GPS) - ISO code system for tolerances on linear sizes: Part 2 tables of standard tolerance classes and limit deviation for holes and shafts (Second Revision)