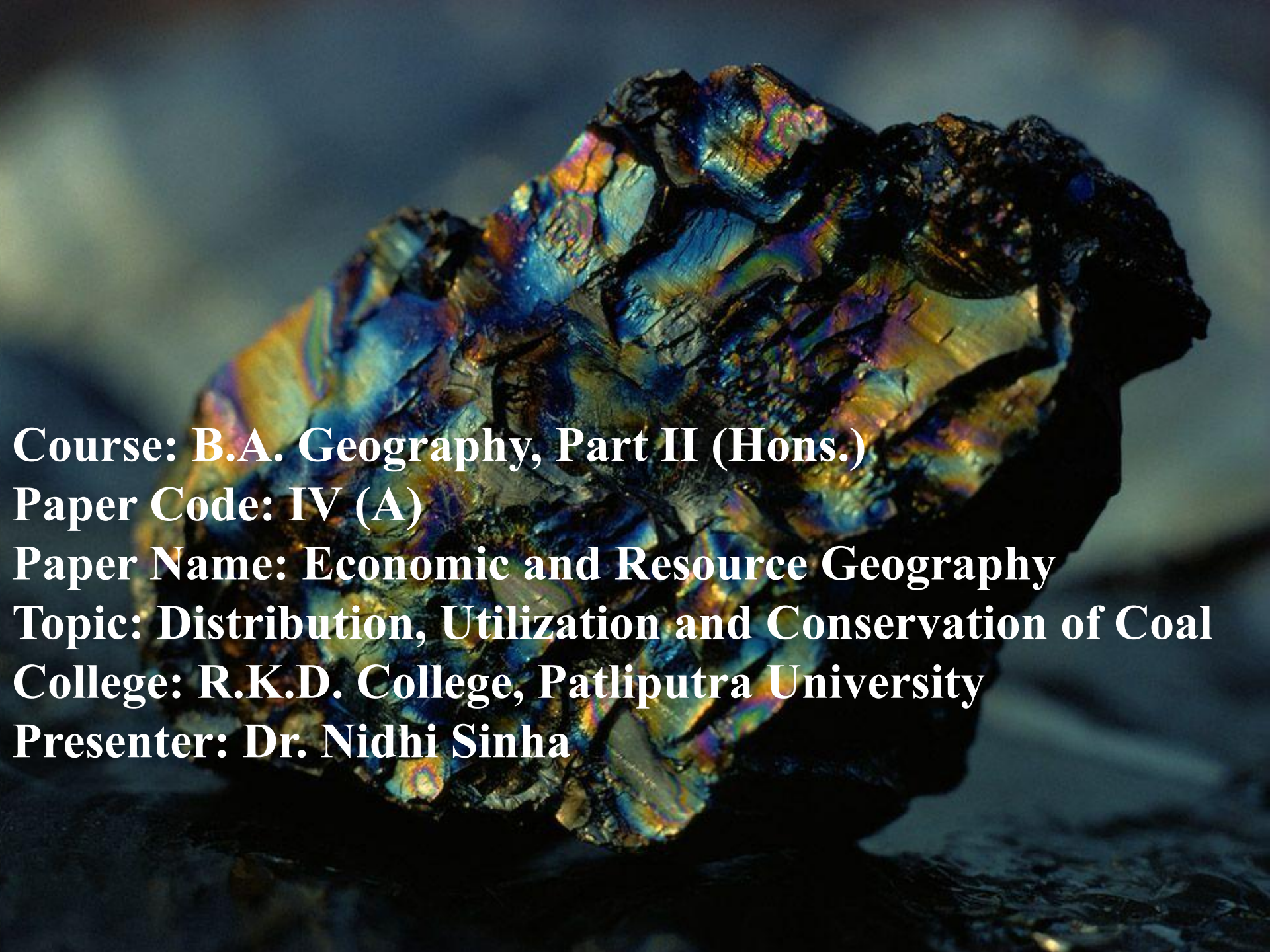


Course: B.A. Geography, Part II (Hons.)
Paper Code: IV (A)
Paper Name: Economic and Resource Geography
Topic: Distribution, Utilization and Conservation of Coal
College: R.K.D. College, Patliputra University
Presenter: Dr. Nidhi Sinha

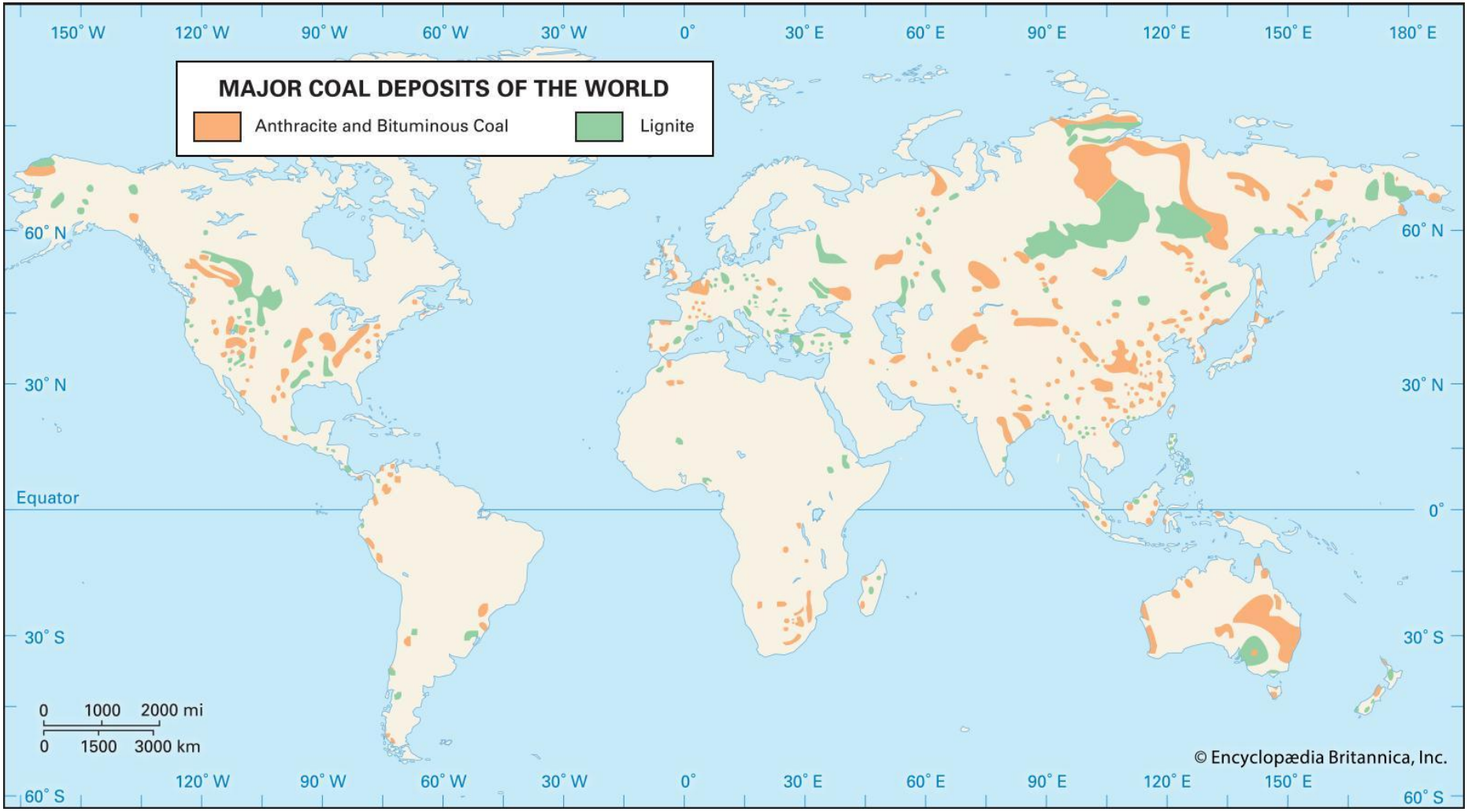
Introduction

- Coal is a sedimentary deposit formed by the slow action of heat and pressure on forests buried over million of years ago
- Coal is composed primarily of carbon along with other elements such as hydrogen, sulphur, oxygen, and nitrogen.
- Coal is mostly used for power generation and metallurgy
- Depending upon its grade from higher to lowest four varieties:
  1. Anthracite (best quality, 80% to 95% carbon)
  2. Bituminous Coal (from 40% to 80% carbon)
  3. Lignite (30% to 40% carbon)
  4. Peat (less than 40 carbon)
- China and USA together contribution is about 60% of the coal production in the world. China has been the main coal producing country in the world since 1986.

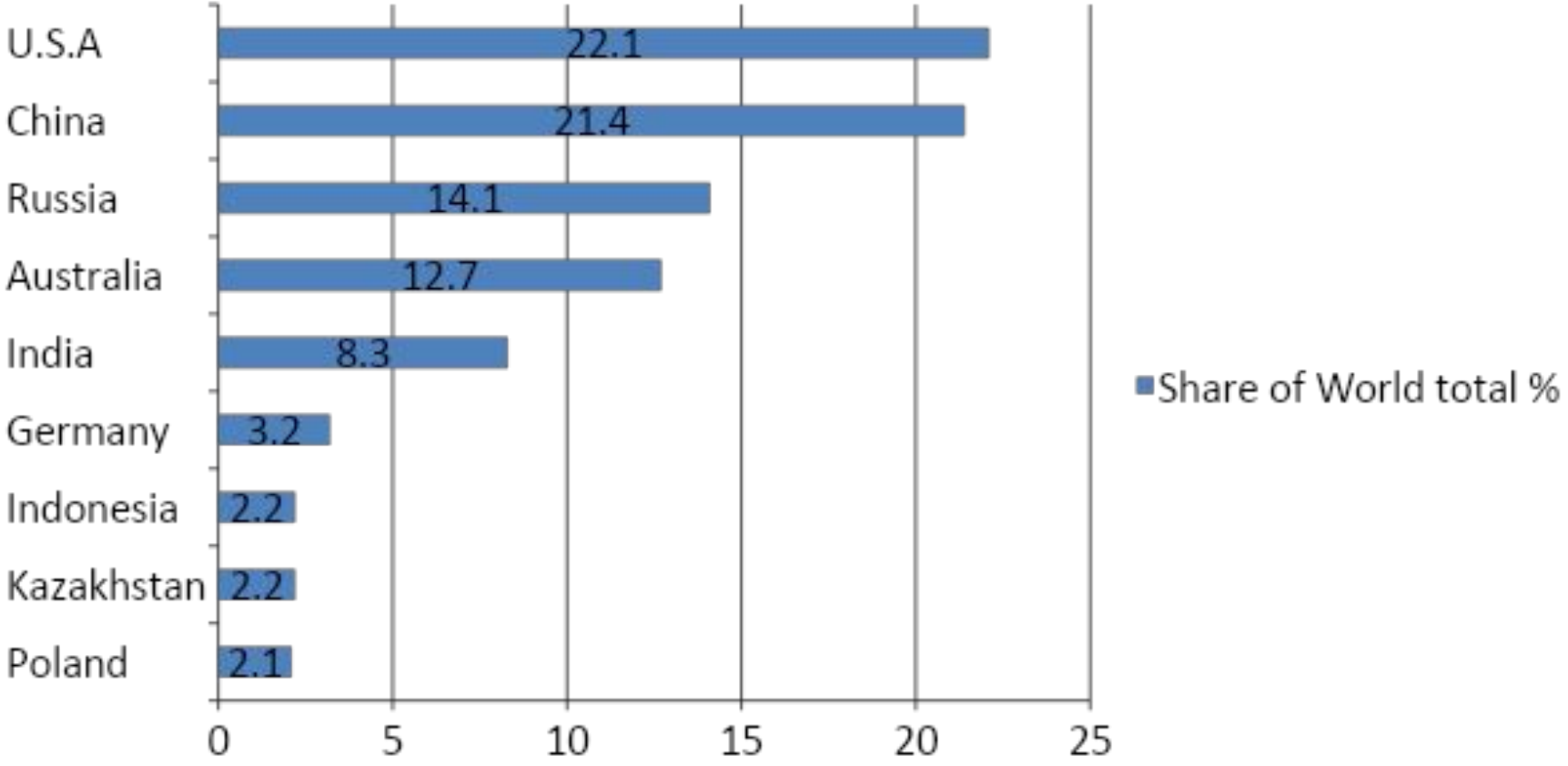
Coal Distribution

Countries	Areas
USA	The Appalachian Coalfields, Rocky Mountain, Pacific Coast , Illinois, Michigan, Arkansas, Oklahoma, Kansa, Missouri, Eastern Nebraska
China	Shansi Shensi field, Shantung and Hopei, Hupei to Fukien, Sikiang and Yunan region and the Manchurian field- Funshun
India	Damodar Valley Coalfields, (Jharia, Raniganj, Bokaro, Girdih and Karanpura) Mahanadi Valley Fields, Godawari Valley Field
Australia	New South Wales, Queensland, Victoria and Tasmania
Russia	Kuznestsk basin, Ural region, Moscow- Tula region, Pechora basin, Eastern and Northern Siberia
Poland	Upper Silesia, Krakuw, Walbrzych and Dombrawa
Germany	Ruhr, Saar, Sexony and Silesia, Halle, Magdeburg and Leapzig
United Kingdom	Scottish Lowlands, Northumberland- Durham Region, South Wales, Lancashire, Yorkshire, West Midland

Major Coal Deposits in the World



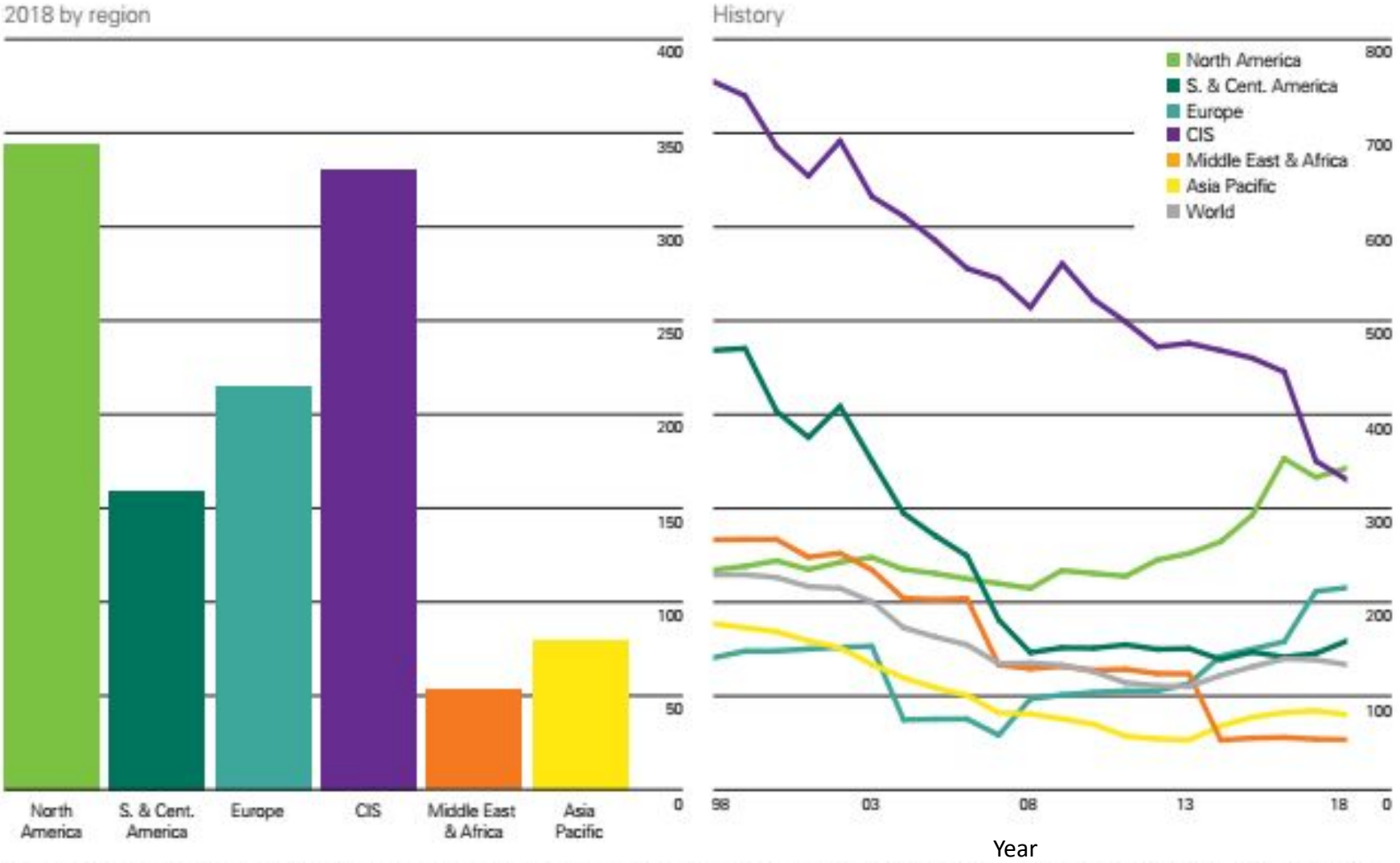
World Proved Reserve of Coal



Source: Statistical Review of World Energy 2019

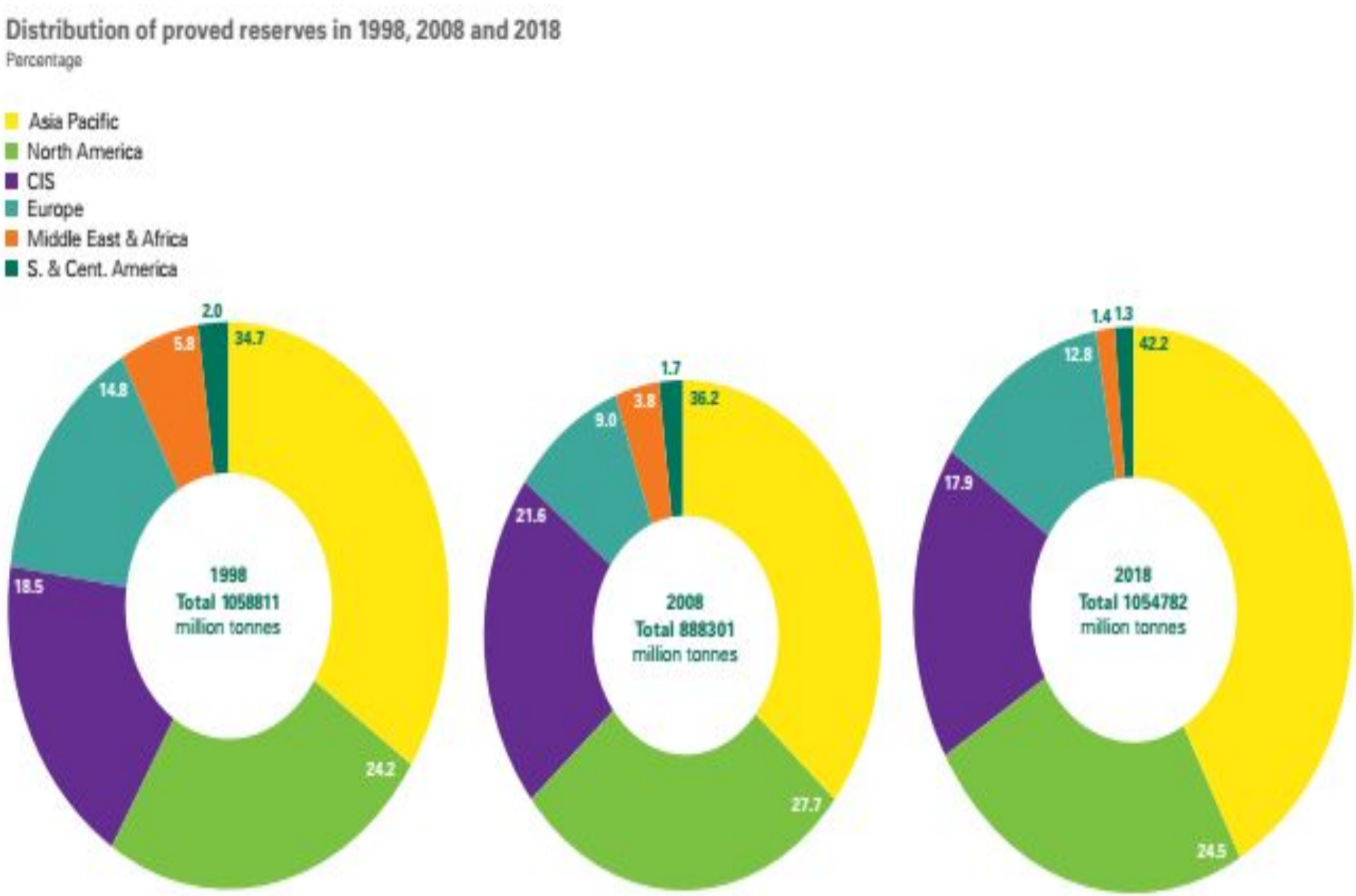
Reserves-to-production (R/P) ratios

Years



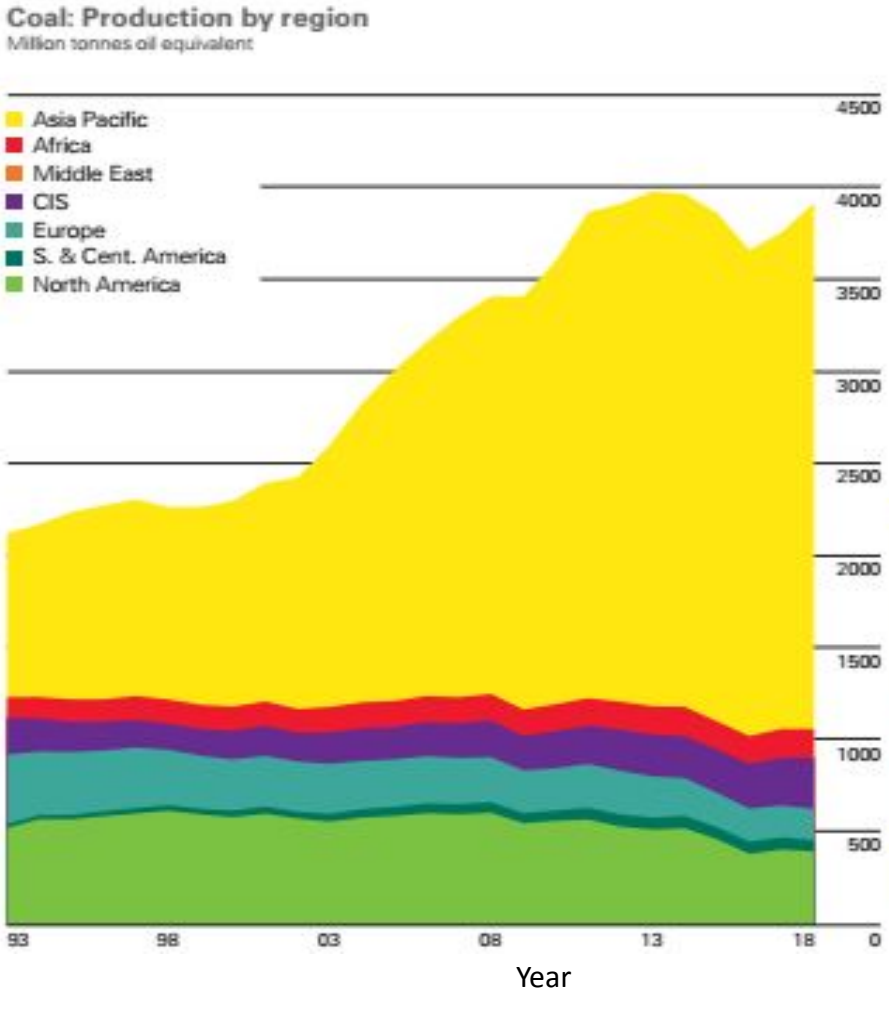
World coal reserves in 2018 stood at 1055 billion tonnes and are heavily concentrated in just a few countries: US (24%), Russia (15%), Australia (14%) and China (13%). Most of the reserves are anthracite and bituminous (70%). The current global R/P ratio shows that coal reserves in 2018 accounted for 132 years of current production with North America (342 years) and CIS (329 years) the regions with the highest ratio.

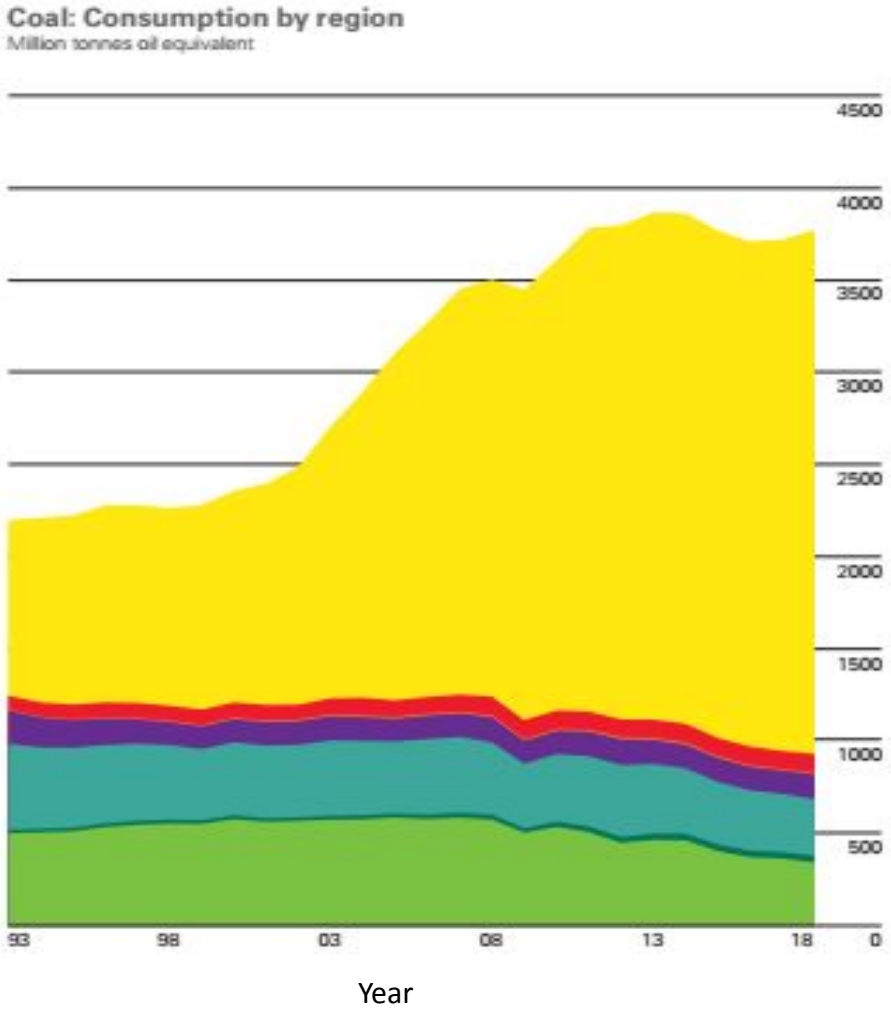
Source: Statistical Review of World Energy 2019



Source: Statistical Review of World Energy 2019

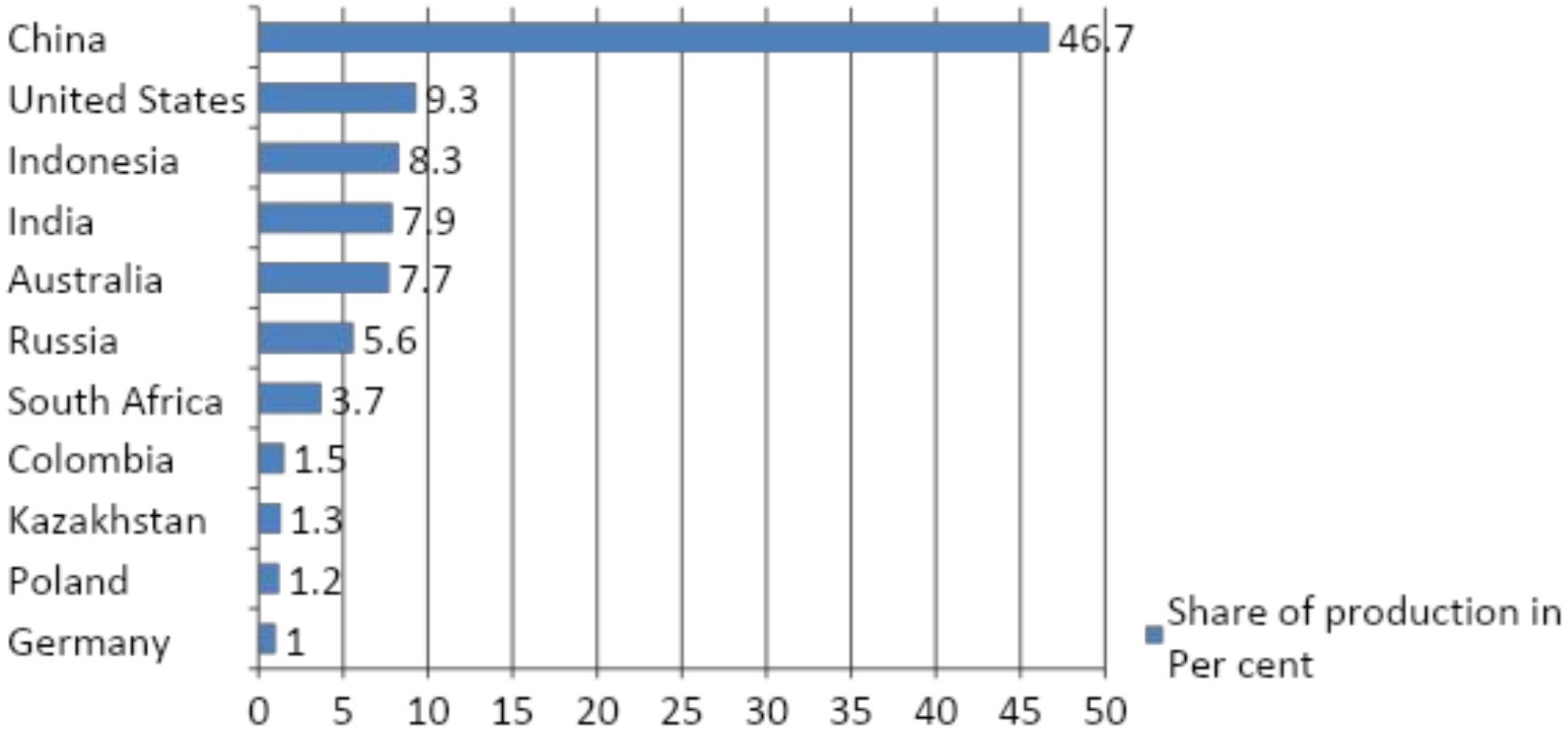
Coal Production





Source: Statistical Review of World Energy 2019

Distribution of global coal production in 2018



Source: Statistical Review of World Energy 2019

Utilization of Coal

- Coal is an abundant natural resource that can be used as a source of energy
- As a chemical source from which numerous synthetic compounds are made:
  - ✔ Dyes
  - ✔ Oils
  - ✔ Waxes
  - ✔ Pharmaceuticals
  - ✔ Pesticides
  - ✔ coke
- Coal is a major source of energy in the production of electrical power using steam generation.
- In addition, gasification and liquefaction of coal produce gaseous and liquid fuels that can be easily transported (e.g., by pipeline) and conveniently stored in tanks.

Conservation of Coal

- Use of alternative source of energy mostly Non convectional energy
- Wastage should be avoided
- Their extraction from mines should be done in a way that will results in maximum recovery of fuels.
  - ✔ Mechanised opencast mining :Percent of recovery is around 80% to 90%
  - ✔ Sand Stowing Method: use for extraction of coal pillars from underground coal seams lying below built-up areas, such as important surface structures, railway lines, rivers, nallahs, jores, etc. Due to scarcity of sand, various experimental trials are being conducted to use other materials like fly ash, boiler ash, crushed overburden material etc. for stowing in underground mines as a substitute for sand.

Assignment

1. Try and do an explanation of any one of the figures from page number 5 to 9.