

② Locomotive - The word locomotive originates from the Latin loco - from a place oblique of locus place and the medieval Latin motives causing motion locomotive engine which was first used in 1814 to distinguish the self propelled and stationary engines.

③ Coning of wheel - The sum of flangers of the wheels are never made flat but they are in the shape of a cone with a slope of about 1 to 20 . This is known as coning of wheels.

Advantage of coning the wheels

- ① Coning the wheels reduce the depreciation of the wheel flange and rails.
- ② Depreciation is caused because of the friction action of flange with inner faces of the rail top. Coning also prevents to some extent the slipping of the wheels.

Ques-3 Historical development of Indian Railways -

1844 - First proposals for the construction of Railways in Indian were submitted to East India Company by R.M Stephenson, a Railway engineer in British India.

1849 - East India Company undertakes a construction of a 160 km Railway line from Calcutta to Mirzapur.

1850 - Contract undertaken by Indian Peninsula Railway for construction of a line from Bombay to Kalyan.

1853 - First Railway line between Borivder (Bombay) and Thane (32 km) opened.

1854 - First train between Howrah and Hooghly (39 km).

1855-60 - Following eight Railway Companies established India.

1. Great Indian Peninsula Railway
2. The Great Indian Railway
3. The Madras Railway
4. The Bombay-Barrack and Central India Railway
5. The Sindhia Railway
6. The Eastern Bengal Railway
7. The South Indian Railway
8. The Calcutta and South Eastern Railway

In the last 5 years we have made a vision for the doubling and modernisation of Indian Railways and rail infrastructure is being upgraded in a planned manner. Said VK Yadav, Chairman Railway Board. He was speaking at the International Rail Conference 2019 coinciding with 13th International Railway equipment exhibition. Indian Railways aims to create an infrastructure capacity which is ahead of demand in the next 5-10 yrs. Said Yadav on the decongestion plans, doubling the high-density rail routes which caters to around 97% of the total traffic, he informed.

Ques-8 Classification of Railway stations - The revised criteria of for D & E categories of station has been fixed as under

- (a) D Categories - Non Suburban Stations with passenger earnings b/w 50 lakhs and 3 crore.
- (b) E Categories - Non Suburban stations with passenger earnings less than Rs.

(2) Signalling - Signalling in British English word