



Participant Handbook

Sector
Automotive

Sub-Sector
Road Transportation

Occupation
Driving

Reference ID: **ASC/Q9705, Version 1.0,**
NSQF Level 4



Taxi Driver

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Shri Narendra Modi
Prime Minister of India

“ Skilling is building a better India.
If we have to move India towards
development then Skill Development
should be our mission. ”



Certificate

**COMPLIANCE TO
QUALIFICATION PACK – NATIONAL OCCUPATIONAL
STANDARDS**

is hereby issued by the

AUTOMOTIVE SKILLS DEVELOPMENT COUNCIL
for

SKILLING CONTENT : PARTICIPANT HANDBOOK

Complying to National Occupational Standards of

Job Role/ Qualification Pack: 'Taxi Driver' QP No. 'ASC/Q 9705 NSQF Level 4'

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About this Book

Indian Auto Industry is one of the largest in the world. The industry is expected to contribute 10% to India's GDP as per Automotive Mission Plan 2016-26 and create 65 million additional jobs. This sector has massive potential for jobs throughout the country. In line with the rapid technological advancement in this field, there are exciting prospects for a fulfilling career in this industry.

This book is designed to enable a candidate to acquire skills that are required for employment. The content of this book is completely aligned to the National Occupation Standards QP/NOS and conform to the National Skills Qualification Framework (NSQF).

The Qualification pack of a Taxi driver, Level 4 includes the following NOS's which have all been covered across the units:

Assess and ensure road worthiness of the vehicle (ASC/N9703)

Coordinate with control room and reach to the customer pickup point (ASC/N9706)

Drop the customer safely using the quickest route and collect the applicable fare for Taxi Driver (ASC/N9707)

Work effectively in a team (ASC/N0002)

Practice HSE and security related guidelines (ASC/N0012)

Key Learning Objectives for the specific NOS mark the beginning of the unit/s for that NOS. The symbols used in this book are described below.

Happy learning!!

Symbols Used



Key Learning Outcomes



Steps



Time



Tips



Notes



Unit Objectives



Summary



Exercise



Activity

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1. Introduction

- Unit 1.1 - Introduction to Automobiles
- Unit 1.2 - Classification of Automobiles
- Unit 1.3 - Invention of Automobiles
- Unit 1.4 - Job Role of Taxi Driver



Key Learning Outcomes



At the end of the module, you will be able to:

1. Explain what is an automobile
2. Describe the evolution of automobiles
3. Explain the scope of automotive industry in India
4. Explain the taxi business in India
5. Classify automobiles based on different criteria
6. List role and responsibilities of a taxi driver

UNIT 1.1: Introduction To Automobile

Unit Objectives

At the end of this unit, you will be able to:

1. Explain what is an automobile
2. Describe the evolution in automobiles

1.1.1 What is an Automobile?

A wheeled vehicle that is powered by a motor is called an automobile. Automobiles replaced the traditional animal powered transport such as horse drawn carriages. Automobiles are used to transport people and goods from one location to another.

The first car built with an internal combustion engine is the Benz Patent-Motor Wagen in the year 1885. This car ran on petrol.



Fig 1.1.1 The Benz Patent-Motor wagen

Evolution in Automobiles

Automobiles went through a process of evolution from the very beginning. This is shown in the set of images below which show the early efforts of people trying to build an automobile, to the current day automobile.

1600



A chariot driven by the wind

1769



The first vehicle driven by steam power

1801



First steam carriage

1893



Three – wheeled phaeton

1911



The first electric self-starter car

1928



Synchro-mesh transmission vehicle

1940



Sealed beam headlamps became standard: and automatic transmission was mass produced

1949



New high-compression engines were introduced, and bodies acquired bigger areas of glass

1960



Toyota Corolla

1983



Maruti 800

1998



Tata Indica

2017



Hyundai Ioniq Electric

Table 1.1.2 Progress of Automobiles

Different Names for Automobiles

Automobiles are known by different names like:

- Car
- Motor Vehicle
- Motor Car
- Auto Rickshaw
- Motor Wagon
- Bus
- Truck

UNIT 1.2: Classification Of Automobiles

Unit Objectives

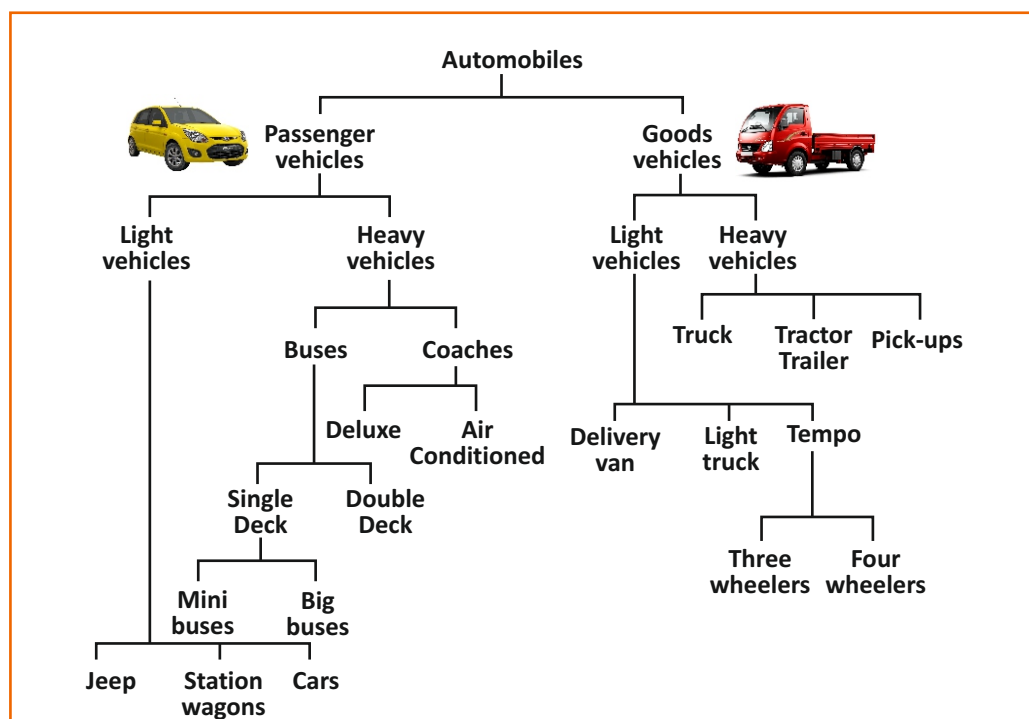
At the end of this unit, you will be able to:

- Classify automobiles according to their use and other conditions

1.2.1 Broad Classification of Automobiles

Automobiles can be widely classified into two categories – passenger vehicles and goods vehicles. While passenger vehicles are used to transport people, goods and materials of various kinds.

The chart below shows different types of automobiles.



Flow chart 1.2.1 Classification of vehicles According to what it carries

1.2.2 Other Classifications of Automobile

Automobiles can also be classified in various ways as given below:

1. Automobile Fuel Used

Vehicles can be grouped according to the fuel used and are mentioned below:

- Petrol vehicle – Station wagons
- Diesel vehicle – Trucks, Buses
- Electric Vehicle – Electric Car,
- CNG vehicle - Cars, Trucks and Buses

2. Automobile Seating Capacity

Vehicles can be classified based on the number of people it can carry. Vehicles grouped according to capacity are given below:

- a. HTV (Heavy Transport Vehicles) – Trucks, Buses, Dumpers etc.
- b. LTV (Light Transport Vehicles) – Pick up, Station wagon
- c. LMV (Light Motor Vehicles) – Jeep, Cars
- d. Medium vehicle – Station wagon, Tempo, Minibus and small trucks



Heavy Transport Vehicle



Light Motor Vehicle



Medium Vehicle



Light Transport Vehicle

Fig 1.2.2 Vehicles Based on Capacity

3. Type of Drive

Vehicles can also be grouped according to the position of the steering wheel. In India, almost all vehicles currently in the Indian automobile market are Right Hand Drive. Given below are the two types of drives available:

- a. Left hand drive – Steering wheel fitted on left hand side of the vehicle
- b. Right hand drive – Steering wheel fitted on right hand side of the vehicle

4. Number of Axles in the Automobile

A vehicle axle is a rod around which a vehicle's wheel moves or rotates. The front wheels of a vehicle will sit on an axle, turning around it as the vehicle moves.

Here the vehicles are grouped according to the number of axles the vehicle has. A vehicle will either have a single axle or multiple axles

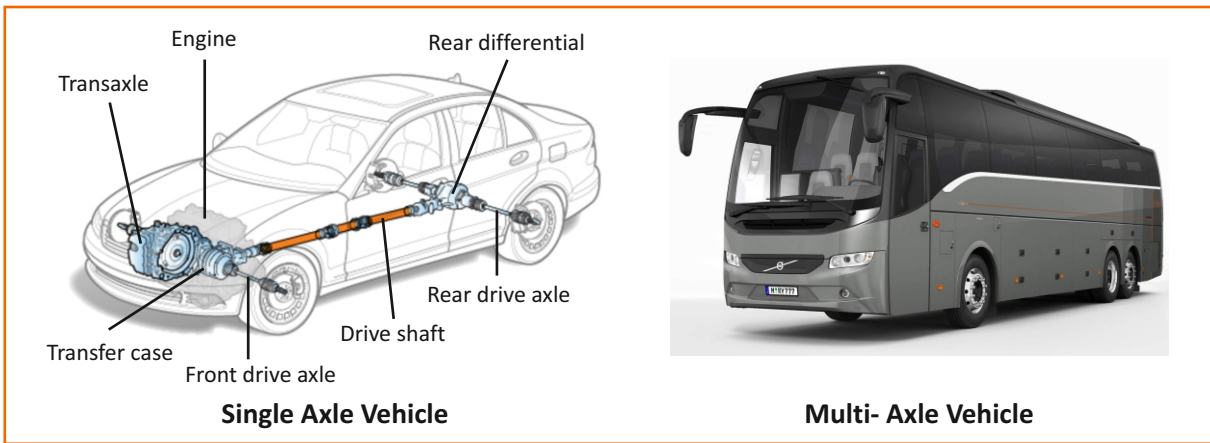


Fig 1.2.3 Different Types of Axles

5. Automobile Suspension System

Vehicles can be grouped according to the type of suspension used in the vehicle. Given below are the types of suspension available for vehicles:

- a. Conventional – Leaf
- b. Independent – Coil spring, Torsion bar, Pneumatic

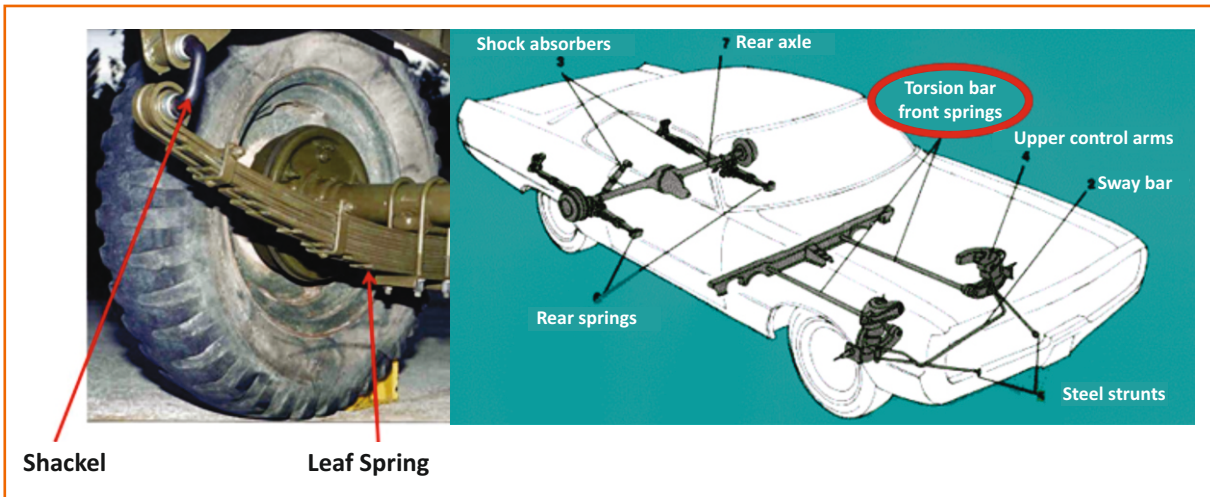


Fig 1.2.4 Leaf Springs and Torsion Springs in a Car

6. Automobile Transmission

A conventional transmission in a car will have a clutch, and gear stick to change gears. A semi-automatic transmission comes only with a gear stick, and doesn't have a clutch. And an Automatic transmission in a car will not have both the clutch and gear stick to change gears in a car.

- a. Conventional – Maruti Suzuki Celerio
- b. Semi-automatic – Toyota
- c. Automatic – Chevrolet

7. Automobile Structure

The structure of a car is classified based on the shape of the car. Given below are the types of cars currently in the Indian Automobile market and an image showing how each type of car looks.

- a. Hatchback – Hyundai i10, Tata Nano,
- b. Sedan – Swift Desire, Honda City, Tata Tigor
- c. MUV/SUV – XUV 500, Toyota Fortuner
- d. Coupe – Audi RS 5,
- e. Convertible - Mercedes SL Class, Mini Cooper
- f. Wagon - Ertiga
- g. Van – Omni
- h. Jeep – Gypsy

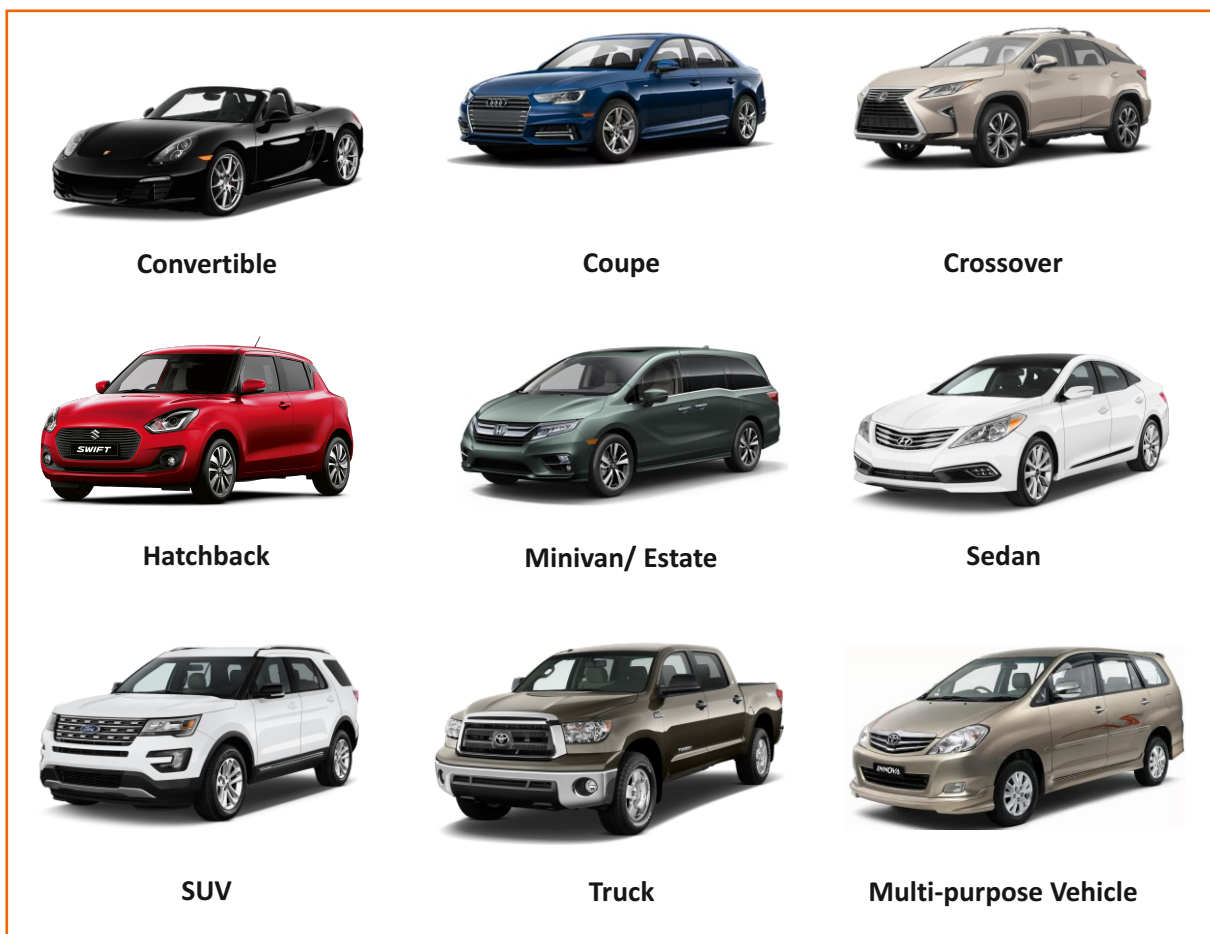


Fig 1.2.5 Vehicles based on Structure

UNIT 1.3: Invention of Automobiles

Unit Objectives

At the end of this unit, you will be able to:

1. Explain the history behind the invention of the automobile
2. Explain the scope of automotive industry in India
3. Explain taxi business in India and its future scope

1.3.1 History of the Automobiles

The history of the automobile can be separated into parts based on the source of power used. More recent periods focused on developments in the utility of the automobile, its size and exterior styling as well.

The first car produced was powered by an internal combustion engine and was fueled by Hydrogen. This was designed by François Isaac de Rivaz in the year 1808. After this Siegfried Marcus built the first petrol powered combustion engine car in the year 1870. Marcus built the next version of the same car was in the year 1880.

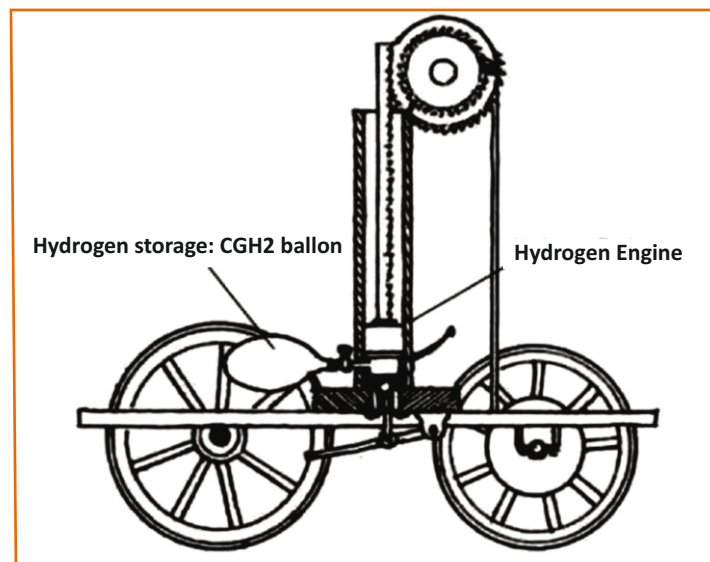


Fig 1.3.1 First Automobile Powered by Hydrogen

The four-stroke petrol engine was patented by an inventor named Nikolaus Otto, and a similar engine was built by Rudolf Diesel, which was powered by diesel fuel. In the year 1885, Karl Benz the inventor made the first petrol powered automobile.

The Ford Motor company produced the Model A automobile in the year 1903. After this it produced the Model T in 1908, which was the first ever mass-produced automobile.

The first electric cars were introduced approximately around 1890 and were quickly replaced by the Model T ford automobiles. This was because; petrol powered automobiles such as the Model T were cheaper and faster.

Interest in electric cars has increased approximately from the year 2000. Various global car manufacturers have begun to make practical electric cars such as the Mahindra Reva.

1.3.2 The Automobile Industry in India

The Indian Automotive Industry is a global entity and is responsible for 7.1% of its Gross Domestic Product (GDP). India has the highest number of individuals in the working age – from 20 – 35 years and this means more people are able to buy an automobile using their earnings.

The Government of India has created a “Make in India” initiative. This aims to make all products required by the country’s economy within the country itself. The automobile sector of the country is a large part of this initiative, with the government encouraging automobile manufacturers within the country. The initiative mentioned above is a part of the Auto Mission Plan (AMP) laid down by the government.



Fig 1.3.2 Outline of the Automotive Mission Plan (AMP)

The Initiative mentioned above is part of the Auto Mission Plan (AMP) has a timeline from 2016-2026. In the image given above ACMA means Automotive Component Manufacturers Association of India which represents the Indian Auto Component Industry and SIAM means Society of Indian Automobile Manufacturers which represents leading vehicle and vehicular engine manufacturers in India. The Indian Automotive Industry has great technological capabilities, and is currently able to manufacture close to 97% of all the components needed to make a car.

Market research and surveys have shown that the Indian passenger vehicle market is going to triple in size by the year 2026. This means there is incredible scope for growth in the Indian Automobile Industry or sector.

The Automotive Industry is responsible for giving direct and indirect employment to over 19 Million people in the country. This means there is a lot of scope for job growth in this sector.

The majority of India's automobile manufacturing industries are based around three clusters. As of May 2011, these 3 clusters with their market shares, regions and car manufacturing companies are displayed in the table given below.

Cluster	Market share	Region	Car manufacturing Companies
Northern	32%	NRC	Gurugram (Haryana: Maruti Suzuki Noida (UP). Honda Cars
Southern	40%	Near Chennai	Hyundai, Renault, Nissan, Ford and assembly plant of BMW on the outskirts
Western	33%	Maharashtra	Chakan Corridor: Volkswagen, M&M, Tata Motors, General Motors, Skoda, Mercedes, Land Rover, etc. Aurangabad: Skoda, Audi and Volkswagen. Gujarat: Tata Nano

Table 1.3.3 India's automobile manufacturing industries

1.3.3 Current Taxi Business in India

The Indian taxi business is very profitable and has gained importance over the past few years. A lot of people who use their cars as taxis have started the taxi business. There is immense potential for new taxi services in India, with companies such as Ola, Uber and Meru being the most important cab operators in the country.

NAME	FOUNDED IN	FOUNDERS	INVESTORS
Ola	2011	Bhavish Aggarwal and Ankit Bhati	SoftBank, Tiger Global, Matrix Partners, Sequoia Capital
TaxiForSure	2011	Aprameya Radhakrishna and Raghunandan G.	Accel Partners, Qualcomm, Helion
Savaari	2006	Gaurav Aggarwal, Mohit Khanna, Manik Shah and Rahul Khanna	Inventus Capital, Intel Capital
Meru	2006	Neeraj Gupta	India Value Fund
Mega Cabs	2001	Kunal Lalani	-
Uber	2009, entered India in 2013	Travis Kalanick and Garrett Camp	Goldman Sachs, Menlo Ventures, Bezos Expeditions
Zoom Car	2013	David Back, Greg Moran	Sequoia Capital

Fig 1.3.4 The Most Popular Taxi Services in India

UNIT 1.4: Job Role of Taxi Driver

Unit Objectives

At the end of this unit, you will be able to:

- List role and responsibilities of a taxi driver

1.4.1 Definition of a Taxi driver

A taxi is a motor vehicle which is licensed to transport passengers in exchange for payment of a calculated fee. A person who drives a taxi is a taxi driver.



Fig 1.4.1 Taxi Driver

1.4.2 Job Role of Taxi Driver

The role and responsibilities of taxi driver are given below, in brief.

taxi driver transports people from one location to another. The individual should be able to drive for several hours on a regular basis. Also, the taxi driver should be able to handle stressful situations which will include challenging customers.

To ensure the passenger/customer has a great ride, the taxi driver should wear clean clothes or a uniform while driving.

The taxi driver must keep the vehicle clean and in good working condition, and report to the superior in case the problem with the vehicle can't be resolved.

Also, he/she should keep documents such as driving license, Registration certificate, and Fitness certificate etc.

Summary



1. The automobile is a wheeled vehicle powered by a motor and was invented to replace animal powered vehicles
2. Automobiles can be widely grouped into Passenger and Goods vehicles
3. Automobiles today are mostly powered by petrol, diesel and electricity
4. The function of a Taxi driver is to transport people from one location to another using a vehicle

Notes



Exercise

Answer the following:

1. The first model launched by Maruti in India was _____.

a) 800 b) Esteem c) Omni van d) Gypsy

2. Classify automobiles according to their use.

3. Tick all the documents you are required to carry while driving

Sl. No	Documents	Tick (✓) for documents required and 'X' for not required
1	Certification of Registration	
2	Certificate of Insurance	
3	Driver's License	
4	Emission Test Certificate	
5	Import License	
6	Vehicle fitness Certificate	

4. List the Roles and responsibilities of a taxi driver.

5. Write short notes on the invention of automobiles.

Tips

- It is very important to validate your business ideas before you invest significant time, money and resources into it.
- The more questions you ask yourself, the more prepared you will be to handle the highs and lows of starting an enterprise.

Footnotes:

1. A mentor is a trusted and experienced person who is willing to coach and guide you.
2. A customer is someone who buys goods and/or services.
3. A competitor is a person or company that sells products and/or services similar to your products and/or services.
4. SWOT stands for Strengths, Weaknesses, Opportunities and Threats. To conduct a SWOT analysis of your company, you need to list down all the strengths and weaknesses of your company, the opportunities that are present for your company and the threats faced by your company.
5. A minimum viable product is a product that has the fewest possible features, that can be sold to customers, for the purpose of getting feedback from customers on the product.
6. A company is said to break even when the profits of the company are equal to the costs.
7. The legal structure could be a sole proprietorship, partnership or limited liability partnership.
8. There are two types of taxes – direct taxes payable by a person or a company, or indirect taxes charged on goods and/or services.
9. There are two types of insurance – life insurance and general insurance. Life insurance covers human life while general insurance covers assets like animals, goods, cars etc

Notes



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