



BOARD OF SCHOOL EDUCATION HARYANA

Syllabus and Chapter wise division of Marks (2023-24)

Class- 11th

Subject: Automotive

Code:AUT 926

General Instructions:

1. There will be an Annual Examination based on the entire syllabus.
2. The Annual Examination will be of 60/2=30 marks, Practical Examination will be of 50 marks and 20 marks weightage shall be for Internal Assessment.
3. For External Assessment (Practical) Examination:
 - (i) External Assessment- Hand on Skill of 25 (Written 10, Practical 15).
 - (ii) External Assessment- Portfolio of 10.
 - (iii) External Assessment- Viva of 15.
4. For Internal Assessment:

There will be Periodic Assessment that would include:

 - i) For 6 marks- Three SAT exams will be conducted and will have a weightage of 06 marks towards the final Internal Assessment.
 - ii) For 2 marks- One half yearly exam will be conducted and will have a weightage of 02 marks towards the final Internal Assessment.
 - iii) For 2 marks- Subject teacher will assess and give maximum 02 marks for CRP (Class room participation).
 - iv) For 5 marks- A project work to be done by students and will have a weightage of 05 marks towards the final Internal Assessment.
 - v) For 5 marks- Attendance of student will be awarded 05 marks as:

75% to 80%	- 01 Marks
Above 80% to 85%	- 02 Marks
Above 85% to 90%	- 03 Marks
Above 90% to 95%	- 04 Marks
Above 95% to -	- 05 Marks



Course Structure (2023-24)

Class- 11th

Subject: Automotive

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Unit. No.	Unit Name	Unit Marks
1	Introduction to Engineering Geometrics and Drawing	06
2	Fasteners	05
3	Material	06
4	Measuring Equipment's	06
5	Regular Maintenance of Engine	06
6	Regular Maintenance of Transmission system	04
7	Regular Maintenance of Gear Box	05
8	Servicing of Wheels	06
9	Maintenance of Brakes	06
Unit. No.	Employability Skill Units	Unit Marks
1.	Communication Skills	2
2.	Self-Management Skills	2
3.	Information and Communication Technology Skills	2
4.	Entrepreneurship Skills	2
5.	Green Skills	2
Total		60/2=30
Practical Examination		50
Internal Assessment		20
Grand Total		100



Unit 1: Introduction to Engineering Geometrics and Drawing

- Basic Geometric Constructions
- Tools of Engineering Drawing

Unit 2 : Fasteners

- Automotive Bolt and Machine Screw
- Automotive Nuts
- Automotive Studs
- Automotive Washer and Rivets
- Removal and replacement of damage fasteners

Unit 3: Material

- Engineering Material
- Basic Manufacturing Process

Unit 4: Measuring Equipment's

- Handling and uses of direct and indirect Measuring tools, Steel rule, callipers etc.
- Angular Measuring Instruments .
- Dial indicator or Gauge And other Gauges Instruments on the dashboard of a vehicle

Unit5: Regular Maintenance of Engine

- Inspection of an engine.
- Washing of an engine .
- Tuning of Fuel system of an engine.
- Tuning of ignition system of an engine.
- Tuning of lubrication system of an engine .
- Tuning of Cooling system of an engine .
- Tightening of Fasteners (Nuts, Bolts and screw).

Unit 6: Regular Maintenance of Transmission system

- Transmission System.
- Clutch Maintenance and Adjustment.

Unit 7: Regular Maintenance of Gear Box

- Lubrication of Gear box.
- Setting of Gear Box.

Unit 8: Servicing of Wheels

- Importance of Wheel
- Importance of hub Greasing and Bearing play Adjustment.
- Tyre and Tube Maintenance
- Repairing of Punctured tube



Unit 9: Maintenance of Brakes

- Brake and its Maintenance
- Type of Brake: Hydraulic, mechanical, air, vacuum brake.

Unit 10 :Employability Skill –

- Communication skill
- Self-management skill
- Information and Communication Technology skill (ICT)
- Entrepreneurship Skill
- Green skills

Practical's: -

1. Basic Geometric Constructions.
2. Tools of Engineering Drawing.
3. Automotive bolts and Machine Screw.
4. Automotive Nuts.
5. Automotive Studs.
6. Automotive washer and Rivets.
7. Engineering Material.
8. Basic Manufacturing Process.
9. direct and indirect measuring instruments.
10. Angular Measuring instruments.
11. Dial Indicator or Gauge and other gauges.
12. Instrument on the dashboard of a vehicle.
13. Washing of an Engine.
14. Tuning of Fuel System of an Engine.
15. Tuning of Ignition System of an Engine.
16. Tuning of Lubrication of system of an Engine.
17. Hub Greasing and Bearing play Adjustment.
18. Tyre and tube Maintenance.
19. Repairing of Punctured Tube.
20. Brake .



Monthwise Syllabus Teaching Plan (2023-24)

Class- 11th

Subject: Automotive

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Month	Subject- content	Teaching Periods	Revision Periods	Practical Work
April	Automobile – Unit 01 Session 01:- Basic Geometric Constructions Employability Skill- Unit 01 Session 01:- Introduction to Communication	16	2	3
May	Automobile Session 01:- Basic Geometric Constructions Automobile Scenario. Employability Skill Session 02:- Verbal Communication Session 03:- Non-verbal Communication	16	2	3
June	Home work – Practical work of unit 1 and revision of ES Unit 1			
July	Automobile Session 02:- Tools of Engineering Drawing Employability Skill – Session 04:- Pronunciation Basics Session 05:- Communication Styles Assertiveness	12	06	07



August	<p>Automobile – Unit-2</p> <ul style="list-style-type: none"> • Session -1 Automotive Bolt and Machine Screw • Session :- 2-Automotive Nuts • Session :-3- Automotive Studs • Session :-4 - Automotive Washer and Rivets <p>Session :-5- Removal and replacement of damage fasteners</p> <p>Employability Skill – Unit 01</p> <p>Session 06:- Saying Non Refusal Skills</p> <p>Session 7:- Writing Skills – Parts of Speech</p> <p>Session 08:- Writing Skills – Sentences</p> <p>Session 09:- Greeting and Introduction</p> <p>Session 10:- Talking About Self</p> <p>Session 11:- Asking Questions</p> <p>Session 12 :- Talking about Family</p> <p>Session 13:- Describing Habits and Routines.</p> <p>Session 14:- Asking for Directions</p>	16	04	04
September	<p>Revision for Half-Yearly Exam</p> <p>Automobile – Unit-3</p> <ul style="list-style-type: none"> • Session :-1- Engineering Material • Session :-2-Basic Manufacturing Process <p>Employability Skill – Unit 02</p> <p>Session 01:- Strength and Weakness Analysis</p> <p>Session 02:- Grooming</p> <p>Session 03:- Personal Hygiene</p> <p>Session 04:- Team Work</p> <p>Session 05:- Networking Skills</p>	14	06	03



October	<p>Automobile – Unit-4</p> <ul style="list-style-type: none"> • Session-1-Handling and uses of direct and indirect Measuring tools , Steel rule, callipers etc. • Session -2-Angular Measuring Instruments • Session -3- Dial indicator or Gauge And other Gauges • Session -4-Instruments on the dashboard of a vehicle <p>Employability Skill – Unit 02 Session 06:- Self-Motivation Session 07:- Goal Setting Session 08:- Time Management</p> <p>Unit 03:- Session 01 :- Introduction to ICT Session 02:- Basic Interface of Libre office writer Session 03:- Saving, Closing, Opening and printing Documents.</p>	12	02	06
November	<p>Automobile –Unit-5</p> <ul style="list-style-type: none"> • Session -1- Inspection of an engine • Session -2- Washing of an engine • Session -3- Tuning of Fuel system of an engine • Session-4- Tuning of ignition system of an engine • Session -5- Tuning of lubrication system of an engine <p>Employability Skill – Unit 03 Session 04:- Formatting text in a word Document Session 05:- Checking spelling and Grammar Session 06:- Inserting Lists, Tables, Pictures and Shapes Session 07:- Header, Footer and Page Number Session 08:- Tracking changes in Libre office writer</p>	10	05	07



December	<p>Automobile – Unit-5</p> <ul style="list-style-type: none">• Session -6- Tuning of Cooling system of an engine• Session -7- tightening of Fasteners (Nuts, Bolts and screw)• Session -8-Engine Timing (Tuning)• Unit-6-Session -1 Transmission System• Session -2- Clutch Maintenance and Adjustment• Unit-7-Session -1- Lubrication of Gear box• Session -2- Setting of Gear Box <p>Employability Skill – Unit 04</p> <p>Session 01:- Introduction to Entrepreneur</p> <p>Session 02:- Values of an Entrepreneur</p> <p>Session 03:-Attitude of an Entrepreneur</p> <p>Session 04:- Thinking like an Entrepreneur</p> <p>Session 05:- Coming up with a Business Idea</p> <p>Session 06:- Understanding the Market</p> <p>Session 07:- Business Planning</p>	15	03	06
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January	Automobile – Unit-8 Session -1- Importance of Wheel Session -2- Importance of hub Greasing and Bearing play Adjustment Session -3- Tyre and Tube Maintenance Session -4- Repairing of Punctured tube Unit-9-Session -1- Brake and its Maintenance Employability Skill – Unit 05 Session 01:- Sectors of Green Economy Session 02:- Policies for a green Economy Session 03:- Stakeholders in green Economy Session 04:Government and Private Agencies	10		02
February	Revision		10	
March	Annual Examination			

Note:

- **Skill Subject Teachers are advised to direct the students to prepare Practical Notebook of the Terminology/Definitional Words/ Glossary used in the Chapters for Enhancement of Vocabulary or Clarity of the Concept.**
- **The PSSCIVE Skill Textbook Present Information in Boxes the book. These help Students to get Conceptual Clarity. However, the Information in these Boxes would not be Assessed in the Year- End Examination.**

Prescribed Books:

1. Security Skill Book- Text Book for Class XI, PSSCIVE Publication.
2. Employability Skill Book- Text Book for Class XI, PSSCIVE Publication.



NSQF Question Paper Design(2023-24)

Class- 11th

Subject: Automotive

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Time:- 2 Hours 30 Minutes

Competencies	Total
Knowledge	40%
Understanding	30%
Application	20%
Skill	10%
	100%

Type of Question	Marks	Number	Description	Total Marks
Objective Questions	1	15	6 Multiple Choice Questions, 3 Fill in the Blanks Questions, 3 One Word Answer Type Questions, 3 Assertion-Reason Questions	15
Very Short Answer Type Question	2	6	Internal choice will be given in any 2 questions	12
Short Answer Type Question	3	6	Internal choice will be given in any 2 questions	18
Essay Answer Type Question	5	3	Internal options will be given in all the questions	15
Total		30		60