



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Technology and Science
Choice Based Credit System (CBCS) Scheme in light of NEP-2020
Generic Elective (Odd Semester)
(2021-2025)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME									
			THEORY			PRACTICAL			L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*					
BTMEGE11	GE	VEHICLES AND EQUIPMENTS OF DAILY LIFE	60	20	20	0	0	3	0	0	3	

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
*Teacher Assessment shall be based following components: Quiz/Assignment/Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs)

The primary objective of the course is to develop basic knowledge of (A) IC engines (B) daily life vehicles (C) principles and working of fans, coolers, refrigerators and air-conditioners (D) Pumps and their applications

Course Outcomes (COs)

After completion of this course the students are expected to be able to

1. Understand and describe the working of IC engines and its basic maintenance issues.
2. Understand and describe the working, major maintenance issues, safety aspects of vehicles.
3. Understand and describe the working, major maintenance issues, safety aspects of fans, coolers, refrigerators and air conditioners.
4. Understand pumps and their applications.

Syllabus

Unit-I

(8 Hrs)

Internal Combustion Engines – Introduction, history, classification of IC Engines, working of IC Engines, major maintenance problems of IC Engines.

Unit-II

(10 Hrs)

Two and Three Wheeler Vehicles:

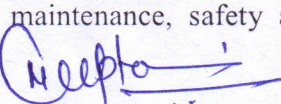
Introduction of two and three wheeler vehicles, classification and layouts of two wheelers (motorcycles, scooters, mopeds) and Three wheeler vehicles (by applications – passengers & goods carriage, capacity etc.), difference between two and three wheeler vehicles.

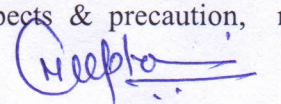
Helmets: Types & purpose. Safety standards related to helmets.

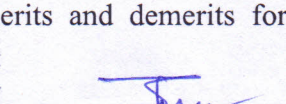
Unit-III

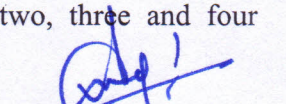
(10 Hrs)

Four Wheelers: – Introduction, history, classification of automobiles, accessories of automobiles, basics of automotive systems, major problems of an automobile and its maintenance, safety aspects & precaution, merits and demerits for two, three and four


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wheelers.

Unit-IV

(9 Hrs)

Heat absorption Systems and Equipments:

Fans & Coolers – Introduction, history, its working, maintenance, safety aspects & precaution.

Refrigerators – Introduction, principle of working, basic components of refrigerator, maintenance, safety aspects & precaution.

Air Conditioners – Introduction, principle of working, basic components of AC, maintenance, safety aspects & precaution.

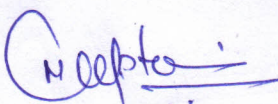
Unit-V

(8 Hrs)

Pumps: Introduction of pump, types of pumps, centrifugal pump: working and its applications, Introduction to positive displacement pumps and their applications, NPSH, selection of pump.

Text and Reference Books:

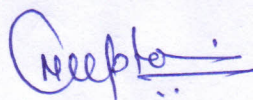
1. "Basic Mechanical Engineering" by Basant Agrawal and C M Agrawal, Willey Pub. 2008.
2. "Internal Combustion Engines" by V. Ganesan, Tata McGraw-Hill, 2012.
3. "Two and Three Wheeler Technology" by Dhruv U. Panchal, PHI, 2015.
4. "A Text book of Automobile Engineering" by P S Gill, Katson Books Vol. 1&2 2010.
5. "Automobile Engineering" by Kirpal Singh, Standard Pub., 2003.
6. "A Text book of Automobile Engineering" by R K Rajpoot, Laxmi Publications 2007.
7. "Refrigeration and Air Conditioning" by C. P. Arora, Tata McGraw Hill, 2006.
8. "Fluid Mechanics and Hydraulic Machine" by R.K. Bansal, Laxmi Publication. 2015
9. "Fluid Mechanics and Hydraulic Machines" by R.K. Rajput, S. Chand & Co., 2016.
10. "Fundamentals of Turbo-machinery" by B.K. Venkanna, PHI, 2009.



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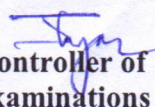
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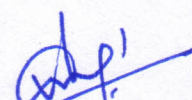
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