



GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP
DIRECTORATE GENERAL OF TRAINING

COMPETENCY BASED CURRICULUM

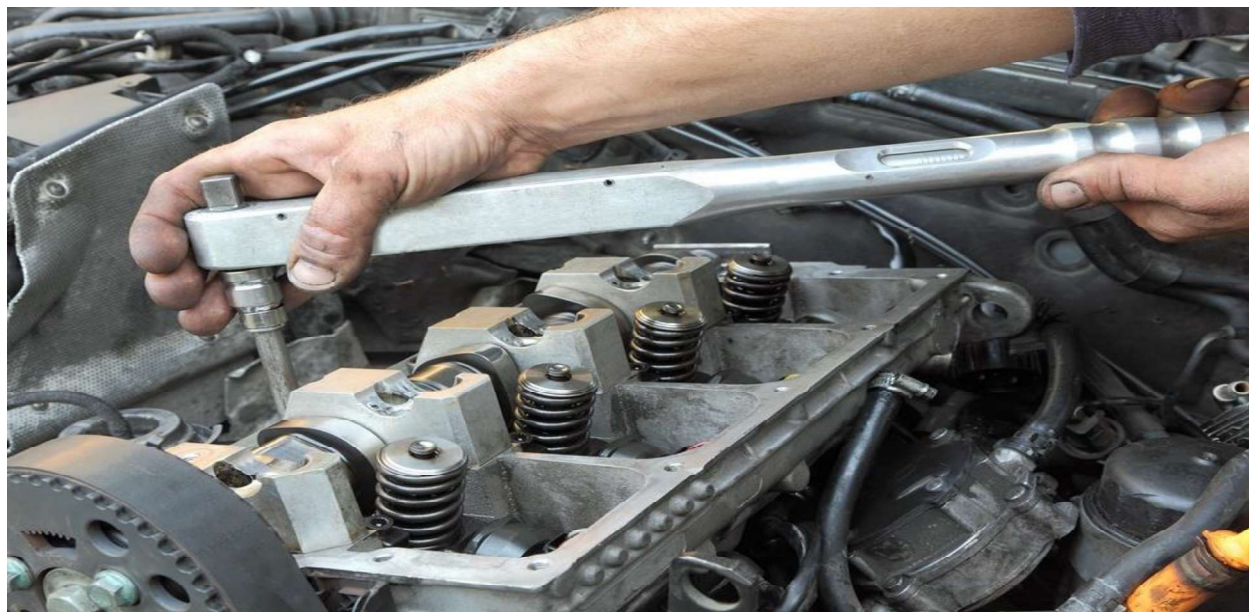
MECHANIC DIESEL

(Duration: One Year)

Revised in July 2022

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL- 3



SECTOR –AUTOMOTIVE



Directorate General of Training

MECHANIC DIESEL

(Engineering Trade)

(Revised in July 2022)

Version: 2.0

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL - 3

Developed By

Ministry of Skill Development and Entrepreneurship

Directorate General of Training

CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE

EN-81, Sector-V, Salt Lake City,

Kolkata – 700 091

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		Repair / Electrical and Electronics / Diesel / Tractor / Two and Three-wheeler trades.
<u>WORKSHOP CALCULATION & SCIENCE: (40 Hrs)</u>		
Professional Knowledge WCS- 40 Hrs.	Demonstrate basic mathematical concept and principles to perform practical operations. Understand and explain basic science in the field of study. (Mapped NOS: CSC/N9402)	<u>WORKSHOP CALCULATION & SCIENCE</u> Unit, Fractions Classification of unit system Fundamental and Derived units F.P.S, C.G.S, M.K.S and SI units Measurement units and conversion Factors, HCF, LCM and problems Fractions - Addition, subtraction, multiplication & division Decimal fractions - Addition, subtraction, multiplication & division Solving problems by using calculator Square root, Ratio and Proportions, Percentage Square and square root Simple problems using calculator Applications of Pythagoras theorem and related problems Ratio and proportion Ratio and proportion - Direct and indirect proportions Percentage Percentage - Changing percentage to decimal and fraction Material Science Types metals, types of ferrous and non ferrous metals Physical and mechanical properties of metals Introduction of iron and cast iron Difference between iron & steel, alloy steel and carbon steel Properties and uses of rubber, timber and insulating materials Mass, Weight, Volume and Density Mass, volume, density, weight and specific gravity, numerical related to L,C,O section only Related problems for mass, volume, density, weight and specific gravity Speed and Velocity, Work, Power and Energy Speed and velocity - Rest, motion, speed, velocity, difference between speed and velocity, acceleration and retardation Speed and velocity - Related problems on speed & velocity Work, power, energy, HP, IHP, BHP and efficiency

		<p>Heat & Temperature and Pressure Concept of heat and temperature, effects of heat, difference between heat and temperature, boiling point & melting point of different metals and non-metals Concept of pressure - Units of pressure, atmospheric pressure, absolute pressure, gauge pressure and gauges used for measuring pressure</p> <p>Basic Electricity Introduction and uses of electricity, electric current AC, DC their comparison, voltage, resistance and their units Conductor, insulator, types of connections - series and parallel Ohm's law, relation between V.I.R & related problems</p> <p>Mensuration Area and perimeter of square, rectangle and parallelogram Surface area and volume of solids - cube, cuboid, cylinder, sphere and hollow cylinder Finding the lateral surface area, total surface area and capacity in litres of hexagonal, conical and cylindrical shaped vessels</p> <p>Levers and Simple machines Simple machines - Effort and load, mechanical advantage, velocity ratio, efficiency of machine, relationship between efficiency, velocity ratio and mechanical advantage Lever & Simple machines - Lever and its types</p> <p>Trigonometry Measurement of angles Trigonometrical ratios Trigonometrical tables</p>
<p>In-plant training/Project work viz.</p> <ul style="list-style-type: none"> a) Overhauling of Pressure Lubrication system b) Maintenance of cooling system. c) Overhauling of FIP. d) Cleaning & Testing of Injectors. e) Overhauling of Alternator f) Overhauling of Starter Motor g) Study on Diagnosis Tool/Scanner Tool for ECU of CRDI engine 		