

**INDIRA TECHNICAL EDUCATION SOCIETY,  
NASHIK**

**ADVANCE DIPLOMA AUTOMOBILE ENGINEERING SERVICES  
(ADATES)**

<b>THEORY PAPER I :</b>	Syllabus for this paper is same as Certificate Course in AUTOMOBILE TECHNICIAN [ ATT – I / DATES - I ] Refer this syllabus booklet Page No. _____	100 Marks
<b>THEORY PAPER II :</b>	Syllabus for this paper is same as Certificate Course in AUTOMOBILE TECHNICIAN [ ATT – II / DATES – II ] Refer this syllabus booklet Page No. _____	100 Marks
<b>THEORY PAPER III :</b>	Syllabus for this paper is same as Certificate Course in AUTO ELECTRICIAN [ ATE / DATES - III ] Refer this syllabus booklet Page No. _____	100 Marks
<b>THEORY PAPER IV :</b>	Theory syllabus for this Diploma Paper IV is Printed below.	100 Marks
<b>PRACTICAL I &amp; II :</b>	Two Separate Practical Practical – I same as ATT Practical – II same as ATE	100 Marks 100 Marks <b>Total ( 600 Marks )</b>

**( ADATES - PAPER – IV )**

**THEORY SYLLABUS**

**MODERN AUTOMOBILE SYSTEM**

1.
  - i) Introduction to MPFI system & its layout.
  - ii) Types of sensors & their working.
  - iii) 16 valve / 12 valve MPFI engine.
  - iv) CNG / LPG engines & its layout. Advantages & disadvantages of CNG / LPG over petrol engines. Important spares / units of CNG engines. Maintenance procedure of CNG engines.
  - iv) V – Tech engines Construction & working of V – Tech engines.
2. **DIESEL FUEL SYSTEM.**
  - i) Turbo engines. Principle & function of Turbo engines.
  - ii) Turbo charger. Super chargers.
  - iii) Details Inter cooler system.
  - iv) Introduction to Bio Diesel Fuel System.
3. **ADVANCE COOLING SYSTEM.**
  - i) Principle & function of pressurized cap system. Deaeration system.
  - ii) Use of various coolants.
  - iii) Anti freezer.

4.           **LUBRICATION SYSTEM.**
  - i) Various types of lubrication systems for vehicle chassis.
  - ii) Study of manual & automatic chassis lubrication system.
5.           **SUSPENSION SYSTEM.**
  - i) Principle & Operation of air suspension.
6.           **POWER STEERING SYSTEM.**
  - i) Construction & working of linkage type & integral type steering system.
  - ii) Advantages & Disadvantages over conventional system & related maintenance process.
7.           **CAR AIR CONDITIONING.**
  - i) Introduction to car air-conditioning.
  - ii) Lay out, construction & operation of air conditioner.
  - iii) Maintenance of car air-conditioner.
8.           **POWER WINDOWS**
  - i) Lay out of power windows.
  - ii) Installation & operation of power windows.
  - iii) Electrical circuit diagram for power windows.
9.           **REMOTE LOCKING (AUTO COP.)**
  - i) Wiring diagram & operation.
  - ii) Centre locking circuit diagram & operation.
10.          **BODY CONSTRUCTION.**
  - i) Types of bodies & their structure.
  - ii) Panel work, denting work etc.
  - iii) Various painting procedures like over coat & scrap down painting.
11.          **VEHICLE INSPECTION.**
  - i) Testing, maintenance & servicing.
  - ii) Inspection of stable vehicle & road test.
  - iii) Fuel economy.
  - iv) Cooling temp. test.
  - v) Brake test.
  - vi) Checking of tyre wear, wheel alignment & balancing procedure.

**SCHEME OF EXAMINATION :**

Theory Four Papers	3 hours	100 Marks each
Two Practicals	2 hours	75 Marks each
Journal		15 Marks each
Oral		10 Marks each
	<b>Total</b>	<b>600 Marks</b>

