Diploma, Anna Univ UG & PG Courses

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AT8611 COMPUTER AIDED ENGINE AND CHASSIS DESIGN LABORATORY

DETAILED SYLLABUS

OBJECTIVE:

- To famiarise the students to use modelling software to model engine components and chassis design

LIST OF ENGINE DESIGN EXPERIMENTS

1. Design and drawing of piston, piston pin and piston rings and drawing of these components.

2. Design of connecting rod small end and big end, shank design, design of big end cap, bolts and drawing of the connecting rod assembly.

3. Design of crankshaft, balancing weight calculations.

4. Development of short and long crank arms, front end and rear end details, drawing of the crankshaft assembly.

5. Design and drawing of flywheel.

6. Ring gear design, drawing of the flywheel including the development of ring gear teeth.

7. Design and drawing of the inlet and exhaust valves.

8. Design of cam and camshaft, cam profile generation, drawing of cam and camshaft.

9. Design of combustion chamber.

LIST OF CHASSIS DESIGN EXPERIMENTS

CLUTCH

10. Complete design of clutch components.

11. Assembly drawing of clutch using drafting software.

GEAR BOX

12. Gear train calculations.

13. Layout of gear box.

14. Calculation of bearing loads

15. Selection of bearings.

16. Assembly drawing of gear box using drafting software.

DRIVE LINE AND REAR AXLE

17. Design of propeller shaft.

18. Design details of final drive gearing.

19. Design details of full floating, semi-floating and three-quarter floating rear shafts and rear axle housings

20. Design aspects of final drive.