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SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E-AUTO

Title of the Paper: Automotive Diesel Engines

Max. Marks: 80

Sub. Code: 686401

Time: 3 Hours

Date: 22/11/2010

Session: AN

PART - A

(10 X 2 = 20)

Answer ALL the Questions

1. Define cetane number.
2. What are differences between two stroke and four stroke diesel engine?
3. What is air injection?
4. Draw a sketch of pintaux nozzle and discuss its merits.
5. Write short notes on turbulent chamber.
6. Define 'diesel knock'.
7. Discuss the necessity and limitations of super charging.
8. What is the principle of exhaust gas recirculation?
9. Why morse test is not suitable for single cylinder engine?
10. What do you mean by charge cooling?

PART – B
Answer All the Questions

(5 x 12 = 60)

11. With a neat sketch discuss the construction and working of four stroke diesel engine.
(or)
12. Derive the efficiency of diesel cycle.
13. With neat sketch, explain the construction and working of distributor type fuel injection pump.
(or)
14. Explain the various types of nozzles with neat sketch.
15. Explain the different types of combustion chamber suitable for diesel engine.
(or)
16. Briefly discuss about the factors which are affecting the combustion in diesel engine.
17. What is meant by supercharger? Discuss its types and method of supercharging with neat sketch.
(or)
18. (a) Explain how matching of turbo charging is done.
(b) What are the methods of turbo charging? Explain briefly.
19. Explain how the following tests are carried out in a laboratory.
(a) Morse test for multicylinder engine
(b) Heat balance test.
(or)
20. Write short notes on the following
(a) Methods to improve in engine performance.
(b) Emission standards in India.