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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 (2009)

Time : 3 Hours

Date :12/11/2011

Session :AN

PART - A

(10 x 2 = 20)

Answer ALL the Questions

1. What is Cetan number?
2. Write the range of compression ratio of diesel engine.
3. What do you mean by injection lag?
4. Expand the term PTFI.
5. What is delay period?
6. What is meant by swirl ratio?
7. What is supercharger?
8. What is meant by charge cooling?
9. What is 'Bharat Norms'?
10. List out the various elements present in diesel smoke.

PART – B

(5 x 12 = 60)

Answer ALL the Questions

11. Describe the construction details and working principle of two stroke diesel engine.

(or)

12. Explain the four stroke diesel engine with neat sketch.

13. Discuss the construction and working details of distributor types pump with neat sketch.
- (or)
14. What is meant by unit injection? Describe the construction details and working principle of mechanical governor.
15. List out the design requirements of diesel engine combustion chamber.
- (or)
16. Explain the construction details of direct and indirect injection combustion chamber with neat sketch.
17. Differentiate supercharger and turbocharger and explain all type of super charger with neat sketch.
- (or)
18. Explain with details
(a) Exhaust gas recirculation
(b) Charge cooling
19. Explain what are the various variable affecting engine performance and emission.
- (or)
20. Discuss (a) Heat balance (b) Performance maps.