

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 :21/04/2010

Session :FN

PART - A

(10 x 2 = 20)

Answer ALL the Questions

1. List the advantages of diesel engines.
2. What is cetane number?
3. What is injection lag? List the parameters influencing it.
4. Brief about the influence of injection timing with respect to emission.
5. List the factors affecting delay period.
6. Compare direct and indirect injection combustion chambers.
7. Write the differences between supercharging and turbo charging.
8. What are the advantages of Exhaust Gas Recirculation?
9. List the variables affecting engine performance.
10. What do you understand by the heat balance test of an IC engine?

PART – B
Answer All the Questions

(5 x 12 = 60)

11. Explain about the construction and working of four stroke diesel engine with neat sketches.
(or)
12. Discuss about the various diesel fuel properties and explain about any two test.
13. Explain about the construction and working of CRDI with neat sketch.
(or)
14. Write short notes on the following
 - (a) Pneumatic governor used in fuel injection system.
 - (b) Any two types of injection nozzles.
15. Explain about different stages of combustion in diesel engines.
(or)
16. Discuss in detail about combustion chamber design requirements and process of combustion in direct and indirect injection combustion chambers.
17. Explain about the type of turbo charger used in heavy duty diesel engines with respect to construction and working.
(or)
18. Describe about super charging and exhaust gas recirculation.
19. Discuss in detail about conduct of performance test on diesel engine.
(or)
20. Describe about conduct of heat balance test on diesel engine.