Code No. : **6482/S**

# FACULTY OF ENGINEERING
## B.E. 3/4 (AE) I Semester (Suppl.) Examination, July 2014
## AUTOMATIVE DIESEL ENGINES

Time: 3 Hours] [Max. Marks: 75

***Note** : Assume suitable data if **necessary** for solving problems.*
*Answer **all** questions from Part **A** and **any five** questions from Part **B**.*

PART – A **(2.5×10=25 Marks)**

1. In what major respects does the diesel engine differ from the spark ignition engine ?
2. What is meant by distributor fuel injection system ?
3. What is meant by swirl motion ?
4. What is the necessity of turbo charging on engine ?
5. What are the emission that come out of engine exhaust ?
6. What are the advantages of two stroke cycle engine our four stroke cycle engine ?
7. What is meant by atomization of fuel ?
8. What is the effect of air motion in CI engine ?
9. What is scavenging ?
10. What is meant by SFC ?

PART – B

11. What is the difference between air-standard cycle and fuel-air cycle analysis ? Explain the significance of fuel-air cycle. **10**
12. What are the two major types of governors used in CI engine ? Explain any one with a neat sketch. **10**
13. a) What is delay period and what are the factors that affect it ? **5**
    b) What are homogeneous and heterogeneous mixtures ? In which engines these mixtures are used ? **5**
14. a) Briefly explain the various methods of supercharging an engine. **5**
    b) What is meant by EGR ? **5**
15. a) Schematically explain the use of study of heat balance sheet of an engine. **5**
    b) Discuss about the various efficiency terms associated with an engine. **5**
16. A diesel engine has a compression ratio of 20 and cut-off takes place at 5% of the stroke. Find the air-standard efficiency. Assuming r = 1.4. **10**
17. Write short notes on the following :
    a) Charge cooling. **3**
    b) Performance maps. **3**
    c) Cetane number. **4**