QUESTION-BANK FOR AEE END-SEM EXAMINATION

Unit 3 - Starting, Charging and Ignition Systems

1) Design considerations of starting systems

2) Construction and working of starter motor

3) Starter motor characteristics

4) Construction and working of Charging systems

5) Design considerations of alternator

6) Ignition System

7) Construction and working of battery ignition system / coil on plug ignition system

8) Spark plug and its types

Unit 4 - Automotive Sensors and Actuators

Sketch and Explain:

i) MAP sensor

ii) MAF sensor

iii) CMP and CKP sensor

iv) Lambda sensor

v) TPS

vi) Rain sensor

vii) Crash sensor

viii) RPM sensor

ix) Stepper motor

x) Piezoelectric Actuator

Unit 5 - Engine Management System

SI Engine Management:

1) Layout and working of open loop and closed loop systems

2) Write a short note on injection strategies (Fuel) [Group and Sequential]

3) Explain injection methods :

i) TBI

ii) MPFi

iii) GDi

4) Sketch and explain components of fuel system

5) Write a short note on :

i) Cold and warm start system

6) Draw the characteristics (Graph) of:

i) Idle speed control

ii) Acceleration

iii) Deceleration

iv) Full load enrichment

v) Fuel cut-off

vi) Spark timing control

CI Engine Management:

1) Spill Control

2) Injection timing control

3) Idle speed control

4) CRDi

5) Fuel Control MAP's

Unit 6 - Advanced Driver Assist Systems

1) ABS ( Statement, Diagrams, Construction, Working, Advantages, Limitations and Applications)

2) Supplementary Restraint Systems (SRS)

3) Driver State Monitoring (DSM)

4) Seat Belts, Types of seat belts :- i)Retractor

ii) Pre-tensioner

iii) Load limiter

5) Adaptive Cruise Control

6) Automatic Braking system

7) Collision Avoidance System

8) Keyless Entry System

9) GPS

10) Lane departure warning systems

11) TPMS

12) SPAS

13) AFS

14) Heads-up Display