

B.E/B.TECH. Degree Examination, December 2020

Third Semester

AE18301-Automotive Engines

(Regulation 2018)

Time: Three hours

Maximum : 80 Marks

Answer **ALL** questions

PART A - (8 X 2 = 16 marks)

1. The compression ratio of a petrol engine is nearly
 - A) 8:1
 - B) 4:1
 - C) 15:1
 - D) 20:1
2. The function of a float chamber in a carburetor is to supply the fuel to the nozzle at a
 - A) constant volume head
 - B) constant pressure head
 - C) variable pressure head
 - D) none of the mentioned
3. Petrol that detonates easily is called
 - A) Low octane petrol
 - B) High octane petrol
 - C) Unleaded petrol
 - D) Blended fuel
4. The power actually developed inside the engine cylinder is called as
 - A) Frictional power
 - B) Brake power
 - C) Indicated power
 - D) None of These
5. List out the firing order of three cylinder Maruthi engine.
6. What would happen if the inlet charge pressure increases in petrol engine?
7. Why is cylinder pressure Vs crank angle diagram plotted while testing an engine?
8. Compare mist lubrication with pressure feed lubrication.

PART B - (4 X16 = 64 marks)

09. (a) Design a familiar valve operating mechanism used in a four stroke engine (16)
and also explain the operating mechanism of the same.

(OR)

- (b) Identify a suitable petrol engine used in modern cars. Explain its constructional details and working. **(16)**
10. (a) How is Bernoulli's equation applied to understand the fundamental working principle of a carburetor? Briefly explain it with a neat sketch. **(16)**
- (OR)**
- (b) Identify a suitable fuel injection system for modern diesel engine and explain with the help of sketches. **(16)**
11. (a) Design a system to recover waste heat from the engine. Briefly explain it. **(16)**
- (OR)**
- (b) The output of the engine has major role on pollutions and operating cost of any vehicle. Explain the various methods to increase brake power output of an engine. **(16)**
12. (a) Design a suitable system to remove the heat from a combustion chamber of an engine. Briefly explain about it. **(16)**
- (OR)**
- (b) Design a suitable system to reduce the engine friction and briefly explain about it. **(16)**