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SUBJECT CODE NO:- E-200
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(Mechanical) Examination Nov/Dec 2017
I.C. Engines
(REVISED)

[Time: Three Hours]

[Max.Marks:80]

- N.B
- Please check whether you have got the right question paper.
- A. Solve any three questions from each section.
 - B. Figures to the right indicate full marks.
 - C. Assume suitable data, if necessary.
 - D. Use of non programmable calculator is allowed.

Section A

- Q.1 a) Explain with the help of P-V and T-S diagram the air standard otto cycle. Obtain the thermal efficiency of otto cycle in terms of compression ratio. 07
b) Explain with neat diagram working of 2-stroke petrol engine 06
- Q.2 a) Give advantages and disadvantages of alternative fuels 07
b) State different types of nozzles. Explain any one 06
- Q.3 a) Explain with neat diagram any three combustion chambers used in SI engine. 07
b) Explain time loss factor. 06
- Q.4 a) Explain with the help of P- θ diagram, different stages of combustion in SI Engine. 07
b) What is meant by abnormal combustion? Explain the phenomenon of knock in SI engine. 06
- Q.5 Write short notes on (Any two) 14
(i) Octane Number
(ii) Fuel additives
(iii) Heat loss factor

Section -B

- Q.6 a) Explain with the help of P- θ diagram, different stages of combustion in CI Engine. 07
b) Explain with neat diagram 'shallow depth' and 'hemispherical chamber' used in CI engine. 06
- Q.7 a) Compare knock in CI engine and SI engine 06
b) Fuel rating for diesel engine. 07

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- Q.8 a) What is supercharging? Write its advantages and limitations. 06
 b) The following readings were taken during the test of a single cylinder 4 stroke oil engine. 07
 Bore=250mm, stroke=400 mm, Gross m.e.p. = 7 bar, pumping m.e.p.=0.5 bar, engine speed = 250 rpm, Net load of the brake = 1080 N, dia of the brake= 1.5 meters, fuel used 10 kg/hr, CV = 44300 kJ/kg. Calculate i) Indicated power ii) brake power iii) Mechanical efficiency iv) Indicated thermal efficiency.
- Q.9 a) Explain the effect of engine emission on human health. 06
 b) Explain multi point fuel injection (MPFI) system 07
- Q.10 Write explanatory notes on : (Any two) 14
 i) Wankel engine
 ii) CRDI engine
 iii) Morse test