

SUBJECT CODE NO:- P-17
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(MECH) Examination May/June 2017

I.C. Engines
(Revised)

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
- i) Solve any three questions from each section.
 - ii) Support your answer with figure wherever possible.
 - iii) Figures to the right indicate full marks
 - iv) Assume suitable data if necessary

Section A

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| Q.1 | (a) Explain with neat diagram working of 4- stroke diesel engine | 07 |
| | (b) Explain with P-V and T.S. diagram Atkinson Cycle. Obtain equation for thermal efficiency of the same. | 07 |
| Q.2 | (a) Write short note on 'heat loss factor'. | 07 |
| | (b) Explain with neat diagram simple carburetor | 06 |
| Q.3 | (a) Discuss the important qualities of S.I. Engine fuel. | 07 |
| | (b) Write short note on fuel additives | 06 |
| Q.4 | (a) Explain the stages of combustion in S.I. Engines | 07 |
| | (b) Explain the effect of various engine variables on S.I. Engine knock | 06 |
| Q.5 | (a) State different Combustion chambers used in S.I. Engine. Explain any one with neat diagram. | 07 |
| | (b) Differentiate between 2 stroke engine and 4- stroke engine | 06 |

Section B

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|------|---|----|
| Q.6 | (a) Explain stages of combustion in C.I. Engine | 07 |
| | (b) Explain the phenomenon of knock in CI engine | 07 |
| Q.7 | (a) Explain any one indirect Injection combustion chamber used in CI Engine | 07 |
| | (b) Discuss 'Cetane Rating' of fuel | 06 |
| Q.8 | (a) Explain Willian's line method to measure friction power | 06 |
| | (b) A four-stroke, four cylinder gasoline engine has a bore of 60mm and stroke of 100mm. On test it develops a torque of 66.5 N.m, when running at 3200 rpm. If the clearance volume in each cylinder is 60cc, the relative efficiency with respect to brake thermal efficiency is 0.5 and the calorific value of fuel is 42 MJ/Kg, determine the fuel consumption in kg/hr and bmep. | 07 |
| Q.9 | Write short notes on | 13 |
| | a) MPFI Engine | |
| | b) CRDI Engine | |
| Q.10 | (a) Discuss on I.C. Engine emission and their effects on human health. | 07 |
| | (b) Explain three-way catalytic convertor to control emission | 06 |