Total No. of Printed Pages:1

SUBJECT CODE:- 236
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(MECH) Examination Nov/Dec 2015
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

Q.1	a)	Explain with neat diagram working of 2-stroke petrol engine.	07
	b)	Explain wit P-V and T-s diagram the diesel cycle. Obtain the equation of thermal efficiency for the diesel cycle in terms of compression ratio, cut-off ratio.	07
Q.2	a)	Briefly explain 'Heat loss factor' and 'Loss due to gas exchange process'.	07
	b)	Explain the working of 'Jerk Type Pump'	06
Q.3	a)	Why there is need of alternative fuels? List out different alternative fuels.	07
	b)	Write note on fuel additives.	06
Q.4	a)	Explain combustion in SI engine with P-Q diagram.	07
	b)	Explain any three factors that effect the SI engine knock.	06
Q.5	a)	Explain with neat diagram any three combustion chambers used in SI engine.	07
	b)	Explain the effect of octane number on SI engine knocking.	06

Section- B

Q.6	a)	Explain with P-Q diagram the CI engine combustion.	07
	b)	What is delay period?	06
Q.7	a)	State different combustion chamber used in CI engine. Explain any one.	07
	b)	Explain 'Direct-injection type' and 'Indirect injection type' of CI engine combustion chamber.	06
Q.8	a)	Explain 'Morse test' to determine friction power of engine.	07
	b)	A four cylinder two stroke petrol engine develops 30kw at 2500rpm. The mep on each piston is 8 bars and mechanical efficiency is 80%. Calculate the diameter and stroke of each cylinder if stroke to bore ratio is 1.5 .Also calculate fuel consumption in kg/hr if brake thermal efficiency is 28%.The calorific value is 43900 Kj/kg .	07
Q.9	a)	State the objectives of supercharging. Also write advantages of supercharging.	06
	b)	Explain 'Wankel engine'	07
Q.10	a)	State different emission coming out from I.C. engine. Explain effect of any two on human health.	06
	b)	Explain multi point fuel injection (MPFI) system.	07