

May - June
2010

Total No. of Questions—12]

[Total No. of Printed Pages—4+2

[3762]-118

S.E. (Mechanical) (II Sem.) EXAMINATION, 2010

IC ENGINES

(2008 COURSE)

Time : Three Hours

Maximum Marks : 100

N.B. :- (i) Answer *three* questions from Section I and *three* questions from Section II.

(ii) Answers to the two sections should be written in separate answer-books.

(iii) Neat diagrams must be drawn wherever necessary.

(iv) Figures to the right indicate full marks.

(v) Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.

(vi) Assume suitable data, if necessary.

SECTION I

1. (a) What are the assumptions made in analyzing the air standard cycle ? [6]

(b) Show that the compression ratio for the maximum work in an Otto cycle is given by :

$$r = \left(\frac{T_3}{T_1} \right)^{\frac{1}{2(r-1)}}$$

where T_1 and T_3 are the lower and upper limits of absolute temperature respectively.

P.T.O.

