Printed Pages: 4 **NAE-011/EAE-011**

(Following Paper ID and Roll No. to be filled in your Answer Books)	
Paper ID : 148661	**Roll No.**

B. TECH.

Theory Examination (Semester-VI) 2015-16

PROPULSION-I

Time : 3 Hours ***Max. Marks : 100***

Section-A

Q1. Attempt all parts. All parts carry equal marks. Write answer of each part in short. Maximum in thirty words. (10×2=20)

(a) State Newton's second law of Motion.

(b) Define combustion.

(c) What is preignition ?

(d) Define "knock rating".

(e) What is a dynamometer ?

(f) Define stroke-Bore Ratio.

(g) Define Air-Fuel Ratio.

(h) What is a radiator ?

(i) Define Volumetric Efficiency ?

(j) What is "octane rating" ?

Section-B

Q2. Attempt any five questions from this section. (5×10=50)

(a) Describe Otto cycle in detail.

(b) Briefly describe the following :

(a) paraffins

(b) olefins

(c) diolefins

(d) napthenes

(e) alcohols

(c) Describe the elements and working of a simple carburettor.

(d) Explain about Pressure-Specific Volume (p.v.) and Pressure-time (p.t.) diagrams for normal combustion. What are their uses?

(e) What are the various characteristics of gasoline ?

(f) What are the various theories of combustion ?

(g) Describe the various types of liquid cooling systems.

(h) What are the constructional details of centrifugal supercharger.

Section-C

Answer any two questions in this section. **(2×15=30)**

Q3. Describe the various lubrication systems.

Q4. Write short notes on three of the following :

(a) Merits and Demerits of Poppet-Valve.

(b) Pressure Indicators

(c) Operating principles of single and double Sleeve valve engines

(d) Mean effective pressure

(e) Compression Ratio

Q5. Answer any three of the following :

(a) Ignition timing and performance

(b) Chemical Equilatrium and Dissociation.

(c) Factors affecting spark advance.

(d) Gear Driven and Turbo super chargers.

(e) Brakes and dynamometers.