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Reg. No: ☐☐☐☐☐☐☐☐☐☐☐

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech II Year II Semester Regular Examinations May 2019
TRACTOR AND AUTOMOTIVE ENGINES
(Agricultural Engineering)

Time: 3 hours   Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	**a**	Explain about various laws of thermodynamics.	6M
	b	Write short notes on Cam shaft and crank shaft.	6M

OR

2 **a** Write about different factors to be considered while selection of a tractor. 6M
b With neat sketches explain about
(i). Connecting rod
(ii).Differential lock 6M
(iii) Valves

UNIT-II

3 Explain about working of 2 stroke petrol engine with neat sketch. 12M

OR

4 Explain the various processes involved in Carnot cycle with P-V and T-S diagrams. 12M

UNIT-III

5 Explain the construction and working of Solex carburetor with neat diagram. 12M

OR

6 What is the use of lubrication system in automobiles? Explain various types of lubrication systems with neat sketches. 12M

UNIT-IV

7 Compare the knock in S.I and C.I engines with suitable graphs. 12M

OR

8 Explain the factors affecting delay period in a C.I. engine. 12M

UNIT-V

9 **a** Explain Volumetric type flow meter and Gravimetric fuel flow measurement with neat sketch. 10M
b What is Indicated specific fuel consumption? 2M

OR

10 A Single cylinder engine working on 4 stroke cycle has a bore of 120mm and stroke of 136Mm and runs at 650 rpm. The mean effective pressure is 6.5 bar. It consumes 10cc of fuel in 30 seconds. The diesel oil used is having a CV of 42000KJ/Kg and Specific gravity of 0.85.The brake wheel diameter is 900mm and rope diameter is 20mm.The net load on the brake is 0.11KN. 12M
Calculate (i) I.P (ii) B.P (iii) Mechanical Efficiency (iv) Indicated thermal efficiency (v) Brake thermal efficiency.

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