



Roll No:

BTECH
(SEM V) THEORY EXAMINATION 2023-24
I C ENGINE, FUELS & LUBRICATION

TIME: 3 HRS

M.MARKS: 100

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief.

Q no.	Question	Marks	CO
a.	How will you differentiate between two stroke engine and four stroke engines?	2	1
b.	What is the relation between mean effective pressure and mean pressure of an IC engine?	2	1
c.	Explain – (i). Pre-ignition (ii). Auto-ignition, (iii). Detonation.	2	2
d.	Why is spark advance required? Discuss the factors that affect ignition timing.	2	2
e.	What is the principle in carburetion?	2	3
f.	What are the basic requirements of fuel injection in CI engines?	2	3
g.	What are the advantages and disadvantages of PNG?	2	4
h.	What causes the S.I. engine's emissions of hydrocarbons?	2	4
i.	Does the cooling of the engine components come from the lubrication system? How come?	2	5
j.	Why can't petrol (gasoline) be used in a compression-ignition (CI) engine or diesel be fed to a spark ignition (SI) engine?	2	5

SECTION B

2. Attempt any *three* of the following:

Q no.	Question	Marks	CO
a.	What a theoretical valve timing diagram is different from actual valve timing diagram (with diagram). Explain effect of each valve openings and closing with their range of angle values.	10	1
b.	Explain that the requirement of air motion and swirl in CI engine combustion chamber is much more stringent that in an SI Engine.	10	2
c.	What do you mean by MPFI System? Give the difference between L-MPFI & D- MPFI System.	10	3
d.	Which are the alternative fuels for I.C. Engine? Write a short note, on some of them.	10	4
e.	What do you understand by ignition timing discuss various factors which affect the ignition timing?	10	5

SECTION C

3. Attempt any *one* part of the following:

Q no.	Question	Marks	CO
a.	What is the basic difference between Otto cycle & Diesel cycle? Deduce the expression of work done, thermal efficiency and mean effective	10	1

