Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV(New) EXAMINATION – SUMMER 2016

Subject Code:2140203 **Date:01/06/2016**

Subject Name:Automobile Engines

Time:10:30 AM to 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1		**Short Questions**	**14**
	1	Define TDC.	
	2	Define Stroke.	
	3	Define BDC.	
	4	Write the full form of MPFI & CRDI.	
	5	What do you mean by firing order?	
	6	What do you mean by Ignition Delay	
	7	List the types of Scavenging.	
	8	What do you mean by Turbo charging?	
	9	Define BHP.	
	10	Define FHP.	
	11	Define Brake Indicated Mean effective Pressure.	
	12	Define Knocking.	
	13	Write the function of Cooling systems.	
	14	Write the functions of Lubrication systems.	
Q.2	**(a)**	Write short note on scavenging pump.	**03**
	(b)	Compare Knocking in S.I and C.I engines.	**04**
	(c)	What is carburetor? Explain the working of single jet carburetor with neat sketch.	**07**
		OR	
	(c)	Explain the Splash lubrication system used in automobile engines with neat sketch.	**07**
Q.3	**(a)**	A 4-stroke SI engine develops 450 KW BP with mechanical efficiency of 80%.The measured fuel consumption is 165 kg/hr. Calculate (a) IP & FP (b) Brake specific fuel consumption.	**03**
	(b)	Write in brief about additives for diesel engine fuels.	**04**
	(c)	Explain the over-cooling and under-cooling of an I.C. engine with its merits and demerits. Explain the various properties of lubricants of an I.C. engines.	**07**
		OR	
Q.3	**(a)**	Write short note on antifreeze solutions.	**03**
	(b)	Explain valve timing diagram for petrol engine.	**04**
	(c)	Explain the stages of combustion with P-θ diagram in C.I. engines	**07**
Q.4	**(a)**	Explain constructional and working details of 4 stroke petrol engine.	**03**
	(b)	Compare 2- stroke and 4-stroke engine.	**04**
	(c)	Explain CNG & LPG Fuel systems.	**07**

OR

Q.4	**(a)**	Explain factors responsible for knocking.	**03**
	(b)	Explain supercharging; write its advantages & limitations.	**04**
	(c)	Explain variable affecting engine performance.	**07**
Q.5	**(a)**	Explain thermo-syphon cooling systems.	**03**
	(b)	Explain prony brake dynamometer.	**04**
	(c)	Explain fuel injectors with neat sketch. Explain its types.	**07**

OR

Q.5	**(a)**	Explain mechanical pump used in SI engine.	**03**
	(b)	Explain morse test.	**04**
	(c)	Explain Bosch type fuel injection pump used in CI engine.	**07**

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