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Examination: [2017 SUMMER](#)

Que.No	Question/Problem	marks
Q 1b)(a)	Give classification of IC engines (any six).....	6
Q 2 a)	In an Ideal ottocycle the air at the beginning of isentropic compression is at 1.01325 bar and.....	8
Q 3)	Represent Brayton cycle on PV and TS diagram.....	4
Q 5 a)	Four Stroke petrol engine	8

Examination: [2017 WINTER](#)

Que.No	Question/Problem	marks
Q 1a)(a)	Draw p-v and T-S diagram for Diesel cycle. Name the processes involved in it.	4
Q 1a)(b)	Draw actual valve timing diagram for 4-stroke petrol engine.	4
Q 1b)(a)	Draw a neat labelled sketch of fuel injection pump. Give its function.	6
Q 3 a)	Explain MPFI with neat sketch.	4
Q 3 b)	Differentiate supercharging and turbocharging in I.C. engine.	4
Q 4a)(d)	Explain w.r.to. dual cycle i) cutoff ratio ii) pressure ratio.	4
Q 4b)(b)	Draw superimposed p-v diagram of Otto cycle, Diesel cycle and Dual cycle to compare their efficiencies for same compression ratio (R c) and heat rejection (Q r).	6

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Que.No	Question/Problem	marks
Q 1a)(a)	Represent 'Brayton Cycle' on P-V and T-S diagram.	4

Que.No	Question/Problem	marks
Q 1a)(d)	Draw 'Valve timing diagram for 4-stroke cycle diesel engine.	4
Q 3 d)	What is 'Scavenging' ? List any two types of 'scavenging'.	4
Q 3 e)	Explain in brief the importance of 'Super Charging'.	4
Q 4a)(a)	Explain in brief the constructional features of MPFI engine	4
Q 4a)(c)	State any four effect of detonation.....	4
Q 4b)(b)	A petrol engine working on constant volume cycle has compression ratio.....	6
Q 6 c)	Represent Carnot cycle on P-V and T-S diagram	4

Examination: [2016 WINTER](#)

Que.No	Question/Problem	marks
Q 1a)(a)	State four assumptions made for air standard cycle.	4
Q 1a)(c)	Compare SI and CI engine on the basis...	4
Q 3 d)	Name four sensors used in I.C. engine and explain working of any one.	4
Q 3 e)	What is scavenging in I.C. engine ? State its types.	4
Q 4a)(a)	Explain the process of combustion in diesel engine.	4
Q 4a)(b)	Explain battery ignition in S.I. engine.	4
Q 6 b)	A diesel engine has a compression ratio of 14 and cut-off takes place at 6% of stroke....	4

Examination: [2015 SUMMER](#)

Que.No	Question/Problem	marks
Q 1a)(a)	Write the equations for air standard efficiency of otto cycle.....	4
Q 3 a)	Draw actual valve timing diagram for 4-stroke petrol engine.	4
Q 3 b)	Explain turb charging with a neat sketch.....	4
Q 4 a)	What are the causes of detonation in I.C. engine ?	4
Q 4b)(a)	Explain with neat sketch turning moment diagram for a four-stroke engine.	6
Q 6 a)	What is MPFI ? Explain any one MPFI system with neat sketch	4

Examination: 2015 WINTER

Que.No	Question/Problem	marks
Q 1a)(a)	<u>An engine of diameter 250 mm and 375 mm stroke works on otto cycle.....</u>	4
Q 1a)(d)	<u>What is pre-ignition ? State any two factors responsible for pre-ignition.</u>	4
Q 1b)(a)	<u>A petrol engine working on otto cycle has compression ratio 8</u>	6
Q 3 d)	<u>Name the different sensors used in ECU of modern automobile with their application....</u>	4
Q 3 e)	<u>Explain different stages of combustion in C.I. engine with sketch.</u>	4
Q 4a)(a)	<u>Explain MPFI system with sketch</u>	4
Q 4a)(c)	<u>Draw and explain Battery ignition system.</u>	4
Q 4b)(b)	<u>With neat sketches explain the working principle of four stroke spark ignition engine.</u>	6
Q 6 c)	<u>Draw P-V and T-S diagram for dual cycle. Name the processes involved in it.....</u>	4

Examination: 2014 WINTER

Que.No	Question/Problem	marks
Q 1a)(i)	<u>Why does the Carnot heat engine not exist in practice.....</u>	4
Q 1a)(iv)	<u>Compare the effect of supercharging on S.I. engine and C.I. engine.....</u>	4
Q 3 d)	<u>Draw super imposed PV and TS diagrams of otto cycle.....</u>	4
Q 3 e)	<u>Draw P-V and T-S diagram for carnot cycle. Name the processes involved in it.....</u>	4
Q 4a)(ii)	<u>Define cut off ratio. Express it in terms of compression ratio and expansion ratio.</u>	4
Q 4a)(iii)	<u>Differentiate between L-MPFI system and D-MPFI system.....</u>	4
Q 4a)(I)	<u>State the functions of following components used in battery ignition system.....</u>	4
Q 4b)(ii)	<u>Draw theoretical and actual P-V diagrams for S.I. engines and explain briefly...</u>	6

Que.No	Question/Problem	marks
Q 6 a)	Which is more effective way to increase the C.O.P. of refrigerator,.....	4
Q 6 c)	An engine working on otto cycle has,....	4
Q 6 e)	In gas turbine plants, Brayton cycle is more suitable than otto cycle...	4

Examination: [2018 SUMMER](#)

Que.No	Question/Problem	marks
Q 1a)(a)	Draw P-V and T-S diagram for Diesel cycle. Name the processes involved in it.	4
Q 3 a)	Draw turning moment diagram for four stroke petrol engine and explain it in brief.	4
Q 3 b)	What is supercharging ? State advantages of supercharging.	4
Q 4a)(a)	What are the effects of detonation in I.C. engine ?	4
Q 4b)(a)	Explain with neat sketch working principle of four stroke petrol engine.	6
