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Examination:

Que.No	Question/Problem	marks
Q3a)	State the norms of Bharat stage III and IV.	4

Examination: 2017 SUMMER

Que.No	Question/Problem	marks
Q 1b)(b)	Morse Test	6
Q 2 b)	The following data refers to a trial conducted on 4-stroke petrol engine Air-fuel ratio (by mass)	8
Q 3 b)	A petrol engine has a cylinder of diameter 60 mm and stroke 100 mm	4
Q3c)	Explain with neat sketch two way catalytic converter.	4
Q 4a)(a)	a) Define : i) Stroke ii) Bore	6
Q 4b)(I)	Explain how the heat balance sheet for an IC engine is prepared	6
Q 6 a)	The following results were obtained during Morse test on 4 stroke petrol engine	4

Examination: 2017 WINTER

Que.No	Question/Problem	marks
Q 2 c)	The following results were obtained during Morse test on 4-stroke petrol engine	8
Q3c)	State the advantages of lubricant additives (any four)	4
Q 4a)(a)	Define the following w.r.to. I.C. engine.	4
Q 4a)(b)	Explain the term swept volume (V s) w.r.to.	4
Q 4b)(a)	What is meant by catalytic converter ?	6

Que.No	Question/Problem	marks
Q 5 c)	List out different pollutants in exhaust gases of petrol and diesel engine	8

Examination: 2016 SUMMER

Que.No	Question/Problem	marks
Q 1b)(a)	Explain in brief, how 'Morse test' is carried out?	6
Q 1b)(b)	Explain with neat sketch the constructional features of 'Three Way Catalytic Converter'.	6
Q 2 c)	Following observations were made during a trial on 4- stroke, single cylinder engine	8
Q 4a)(b)	An engine has piston diameter 15 cm, length of stroke 40 cm and mean effective pressure 5 bar	4
Q 4a)(d)	Explain the term w.r.t. I.C. engine	4
Q 4b)(a)	Name any four additives used in lubricants? State their advantages	6

Examination: 2016 WINTER

Que.No	Question/Problem	marks
Q 1b)(a)	A four cylinder engine running at 1200 rpm delivers 20 kW	6
Q 1b)(b)	Explain with neat sketch working of non dispersive infra red (NDIR) gas analyser.	6
Q 2 c)	A four stroke gas engine has a cylinder diameter of 25 cm and stroke 45 cm	8
Q 3 a)	<u>List any four pollutants in exhaust gases of I.C. engine with their effects.</u>	4
Q 4a)(c)	State the norms of Bharat stage III and IV	4
Q 4b)(a)	Define – (i) Indicated power, (ii) Mechanical efficiency, (iii) BSFC	6
Q 4b)(b)	<u>List the additives of lubricant used in S.I engine and state</u> <u>their advantages.</u>	6

Examination: 2015 SUMMER

Que.No	Question/Problem	marks
Q 1b)(a)	What is the necessity of I.C. Engine Testing	6
Q 1b)(b)	Explain the procedure for conducting Morse test	6

Que.No	Question/Problem	marks
Q 2 a)	An I.C. Engine uses 6 kg of fuel having calorific value 44000 kJ/kg in one hour	8
Q3c)	Explain three way catalytic convertor	4
Q4b)	What are the effects of pollutants on environment?	4
Q 4b)(b)	The following results were obtained during Morse test on 4- stroke petrol engine. B.P	6

Examination: 2015 WINTER

Que.No	Question/Problem	marks
Q 1b)(b)	Write any three pollutants in exhaust gasses	6
Q 2 c)	The following observations were made during the test on an oil engine BP	8
Q3a)	What is catalytic convertor? Explain two way catalytic convertor with neat sketch	4
Q 3a)(d)	Describe the method to measure indicated power of I.C. engine.	4
Q 4a)(b)	Define the following related I.C. engine	4
Q 4b)(a)	<u>List the additives of Lubricant used in S.I. engine and state their advantages.</u>	6

Examination: 2014 WINTER

Que.No	Question/Problem	marks
Q 1b)(i)	What do you mean by	6
Q 1b)(ii)	Explain with neat sketch any one catalytic converter	6
Q 2 c)	During a trial on 4-stroke gas engine following observations were recorded	8
Q3a)	The results of exhaust gas analysis	4
Q 4a)(iv)	Various efficiencies of 4-stroke petrol engine run at full throttle over	4
Q 4b)(l)	State the role of following lubricant additives	6

Examination: 2018 SUMMER

Que.No	Question/Problem	marks
Q 1b)(a)	State different methods of determining frictional power of I.C. engine and explain any one method	6

Que.No	Question/Problem	marks
Q 1b)(b)	Explain with neat sketch working principle of any one type of catalytic converter.	6
Q 1b)(i)	<u>Define</u> :	4
Q 2 a)	Following observations were recorded during a trial on single cylinder four stroke oil engine	8
Q 3 c)	State effects of pollutants in exhaust gases of petrol engine.	4
Q 4a)(b)	<u>Define : i) Mechanical efficiency ii) Volumetric efficiency related to I.C. engine.</u>	4
Q 4a)(c)	State advantages of closed cycle gas turbine.	4
Q 4b)(b)	The following data is collected during a trial of four stroke four cylinder petrol engine.	6
Q6a)	State any four types of sensors used in I.C. engine.	4