

Program: BE Mechanical Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester V

Course Code: (MEC501) and Course Name: Internal Combustion Engine

Time: 1 hour

Max. Marks: 50

Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	For the same peak pressure and work output
Option A:	Otto Cycle >Dual Cycle > Diesel Cycle
Option B:	Otto Cycle >Diesel Cycle > Dual Cycle
Option C:	Diesel Cycle > Otto Cycle > Dual Cycle
Option D:	Diesel Cycle > Dual Cycle > Otto Cycle
Q2.	During which condition of the vehicle does NOx emission in SI engine will be lowest?
Option A:	Accelerating
Option B:	Decelerating
Option C:	Cruising
Option D:	Idling
Q3.	The function of the ignition system is to _____the flame propagation process.
Option A:	Stop
Option B:	Initiate
Option C:	Balance
Option D:	Increase
Q4.	In a petrol engine, the mixture has the lowest pressure at the
Option A:	beginning of suction stroke
Option B:	end of suction
Option C:	beginning of compression
Option D:	end of compression
Q5.	The function of a float chamber in a carburetor is to supply the fuel to the nozzle at a _____.
Option A:	Constant volume head
Option B:	Constant pressure head
Option C:	Variable volume head
Option D:	Variable pressure head
Q6.	For a constant speed diesel engine with governor, when the load on engine increases, volumetric efficiency will _____.
Option A:	Increase

Option B:	Increases till attained its maximum value then decreases
Option C:	decrease
Option D:	be un-affected
Q7.	Ratio of BMEP and IMEP gives
Option A:	Mechanical Efficiency
Option B:	Volumetric Efficiency
Option C:	Brake Thermal Efficiency
Option D:	Indicated Thermal Efficiency
Q8.	Which of the following loss is considered during Fuel Air Analysis
Option A:	Losses due to Variable Specific Heat
Option B:	Direct Heat Losses
Option C:	Time Loss
Option D:	Exhaust Blowdown
Q9.	A 4 stroke single cylinder IC Engine having Stroke 48 cm and bore 40 cm works at Brake Mean Effective Pressure of 7.2 bar. Torque applied by Engine will be -
Option A:	3456 N
Option B:	6912 N
Option C:	4147 N
Option D:	8294 N
Q10.	Increased Valve Overlap Period will Increase
Option A:	Oxides of Nitrogen
Option B:	Unburnt Hydrocarbons
Option C:	Particulates
Option D:	CO and CO ₂
Q11.	Which of the following Pollution Control standard was proposed to go into effect for all vehicles manufactured on or after 1 st April 2020
Option A:	BS IV
Option B:	BS V
Option C:	BS VI
Option D:	BS VII
Q12.	If engine produces Break Power of 58 kW at full load condition and 10 kW of Power is lost in Friction. What will be Mechanical Efficiency of the Same Engine at Half Load Condition?
Option A:	85%
Option B:	74%
Option C:	90%
Option D:	70%
Q13.	A two stroke cycle engine gives _____ the number of power strokes as compared to the four stroke cycle engine, at the same engine speed
Option A:	Half

Option B:	Same
Option C:	Double
Option D:	4 times
Q14.	in CI Engine with increase in compression ratio the delay period
Option A:	Increases
Option B:	Decreases
Option C:	First Increase then decreases
Option D:	Remains same
Q15.	Which of the following is not function of the lubrication system
Option A:	Provide Lubrication between moving parts
Option B:	provide cooling by taking away some heat from the component
Option C:	To keep the bearings and piston rings clean of the product of wear and combustion byproducts
Option D:	To increase incoming air Pressure before Combustion Chamber
Q16.	Select Correct statement regarding IC Engine Cooling System
Option A:	Overcooling will not have any effect on IC Engine Performance.
Option B:	Engine can work effectively without cooling system
Option C:	if cooling is not provided mechanical strength of the engine components decreases
Option D:	Absence of Cooling system will reduce chances of pre-ignition.
Q17.	Select Incorrect statement regarding Supercharger and turbocharger
Option A:	Supercharger is driven by engine through mechanical linkage
Option B:	Turbocharger is driven by Turbine running on Engine Exhaust
Option C:	Exhaust Blowdown can be recovered with Turbocharger
Option D:	For installing Turbocharger, no any changes are required to be made in existing engine
Q18.	A 4 stroke petrol engine delivers 40 kW with the mechanical efficiency of 80%. The fuel consumption of the engine is 0.4 kg/kW hr and air fuel ratio is 14:1.the heating value of Fuel is 43000 kJ/kg. Find - ISFC (Indicated Specific Fuel Consumption) in kg/kW hr
Option A:	0.008
Option B:	0.01
Option C:	0.04
Option D:	0.8
Q19.	Which of the following method of friction power measurement is based on fuel consumption extrapolation rate
Option A:	Morse test
Option B:	Motoring test
Option C:	Willian's line method
Option D:	Retardation test

Q20.	Select incorrect assumption for Air Standard Analysis
Option A:	All Processes are reversible
Option B:	working medium is perfect gas
Option C:	No heat losses from the engine
Option D:	Specific heat varies during the cycle
Q21.	Optimized Valve Overlap Period in CI Engine Lead to
Option A:	Efficient Scavenging
Option B:	Loss in Volumetric Efficiency
Option C:	Loss in Thermal Efficiency
Option D:	Increased emission of unburnt fuel
Q22.	Homogeneous Charge Compression Ignition Engine
Option A:	Gives Lesser efficiency than Normal Diesel Engine
Option B:	Gives Lesser Power Output than Normal Diesel Engine
Option C:	Gives benefit of both SI and CI Engine
Option D:	has higher emissions than CI Engine
Q23.	Choose correct statement for Simple carburetor
Option A:	it provides increasing richness with increasing engine speed and vice versa
Option B:	It provides required A/F mixture at any throttle position
Option C:	Simple carburetor alone can meet all A/F mixture needs of the Engine
Option D:	Simple Carburetor working will not get affected by surging
Q24.	Select incorrect statement regarding comparison of Carburetion system and Injection system for SI Engine
Option A:	Engine with injection system shows Increased Volumetric Efficiency
Option B:	Engine with injection system shows Better and Uniform Distribution of Mixture
Option C:	Engine with injection system shows Better Starting and Acceleration
Option D:	Engine with injection system shows Lower Initial Cost and Lower Maintenance Cost
Q25.	which of the following Sensor is used to sense amount of oxygen in the engine exhaust
Option A:	Lambda Sensor
Option B:	Vane Air Flow Sensor
Option C:	Knock Sensor
Option D:	Throttle position sensor