

University of Mumbai
Examination 2020 under cluster 9 (FAMT)

Program: BE Mechanical Engineering

Curriculum Scheme: **Revised 2016/2012**

Examination: Second Year Semester III

Course Code: MEC302 and Course Name: Thermodynamics

Sample Questions are only for Reference and may/may not appear in the final exam.

Time: 1 hour

Max. Marks: 50

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

Q1.	100 KPA=BAR
Option A:	1
Option B:	10
Option C:	100
Option D:	1000
Q2.	In approach, a certain quantity of matter is considered, without a concern on the events occurring at the molecular level.
Option A:	macroscopic
Option B:	microscopic
Option C:	Menuscropic
Option D:	random
Q3.	A process in which all states of the system passes through are equilibrium states is called as
Option A:	Isobaric Process
Option B:	Quasi-Static Process
Option C:	Polytropic Process
Option D:	Adiabatic Process
Q4.	$C_p - C_v =$
Option A:	K
Option B:	R
Option C:	P
Option D:	V
Q5.	Heat transfer is zero in
Option A:	Isobaric Process
Option B:	Quasi-Static Process
Option C:	Polytropic Process
Option D:	Adiabatic Process

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Q6. is defined as the sum of the system's internal energy and the product of its pressure and volume.
Option A:	Entropy
Option B:	Enthalpy
Option C:	Internal Energy
Option D:	Kinetic Energy
Q7.	The enthalpy of an ideal gas is independent of its, and depends only on its temperature
Option A:	Pressure
Option B:	Volume
Option C:	Gas constant
Option D:	index
Q8.	A machine which can supply mechanical work continuously without consumption of any energy is called as
Option A:	PMM 1
Option B:	PMM 2
Option C:	PMM 3
Option D:	PMM 4
Q9.	Unit of Heat Capacity is
Option A:	J/kg.K
Option B:	J
Option C:	J/K
Option D:	J/Kg
Q10. is a property of a system which determines the degree of hotness or coldness.
Option A:	Pressure
Option B:	Volume
Option C:	Temperature
Option D:	Viscosity
Q11.	The Constant Pressure process is known as
Option A:	Isobaric Process
Option B:	Quasi-Static Process
Option C:	Polytropic Process
Option D:	Adiabatic Process
Q12.	It is the condition of a system as defined by the values of all its properties.
Option A:	State
Option B:	Property
Option C:	Process
Option D:	Path

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Q13.	In our study of thermodynamics, we will choose a small part of the universe to which we will apply the laws of thermodynamics. We call this subset a
Option A:	Surrounding
Option B:	System
Option C:	Boundary
Option D:	Universe
Q14.	Air is compressed poly-tropically till it's temp becomes 500 K. the initial temp of air is 300K. find the work done (KJ/Kg)? index of the process is 1.3
Option A:	191.33
Option B:	-191.33
Option C:	250
Option D:	287
Q15.	In constant volume process the pressure at the initial state was 1 bar and temp was 300 k. At the end state the pressure was rise to 10 bar and temp. was 600K. Find the work done in KJ?
Option A:	0
Option B:	10
Option C:	20
Option D:	30
Q16.	For the saturated dry steam, dryness fraction m is =
Option A:	0
Option B:	1
Option C:	2
Option D:	3
Q17.	The temperature is the temperature for a corresponding saturation pressure at which a liquid boils into its vapor phase.
Option A:	saturation
Option B:	fusion
Option C:	superheated
Option D:	sublimation
Q18.	The cycle which consists of two reversible isotherms and two reversible adiabatic is called as
Option A:	Rankine cycle
Option B:	Carnot cycle
Option C:	Stirling cycle
Option D:	Ericsson cycle
Q19.	The volume swept by the piston while moving from TDC to BDC or BDC to TDC is known as

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Option A:	Clearance Volume
Option B:	Swept Volume
Option C:	Total Volume
Option D:	Specific Volume
Q20.	Find the efficiency of Otto cycle having compression ratio 8.
Option A:	56.5%
Option B:	50.5%
Option C:	41.25%
Option D:	98%
Q21.	The coefficient performance of a refrigerator is 5. Calculate the temperature of the surrounding if the temperature inside the freezer is -20°C
Option A:	11°C
Option B:	21°C
Option C:	31°C
Option D:	41°C
Q22.	Available Energy=
Option A:	Unavailable Energy
Option B:	Heat Supplied
Option C:	Maximum work obtainable
Option D:	Heat Rejected
Q23.	The process will terminate when the pressure and temperature of the system and surrounding are equal. This state is referred as
Option A:	live state
Option B:	working state.
Option C:	open state.
Option D:	dead state.
Q24.	A cyclic heat engine operates between a source temperature of 227°C and a sink temperature of 27°C . What will be the maximum efficiency of the heat engine?
Option A:	40%
Option B:	100%
Option C:	60%
Option D:	0%
Q25.	Carnot cycle is
Option A:	reversible cycle
Option B:	an irreversible cycle
Option C:	practical cycle
Option D:	Dual cycle