

## **THERMAL ENGINEERING MCQ FOR PRACTICE**

1. A definite area or a place where some thermodynamic process takes place is known as
  1. Thermodynamic system
  2. Thermodynamic circle
  3. Thermodynamic process
  4. Thermodynamic law
2. The measurement of a thermodynamic property known as the temperature is based on
  1. Zeroth law of thermodynamics
  2. First law of thermodynamics
  3. The second law of thermodynamics
  4. None of these
3. The amount of heat required to raise the temperature of the unit mass of gas through one degree at constant volume is known as
  1. Specific heat at volume
  2. Specific heat at constant pressure
  3. Kilojoule
  4. None of these
4. An open system is one which
  1. Heat and work crosses the boundary of the system, but the mass of the working substance does not cross the boundary of the system
  2. Mass of the working substance crosses the boundary of the system but the heat and work does not cross the boundary of the system
  3. Both the heat and work as well as mass of the working substance crosses the boundary of the system
  4. Neither the heat and work nor the mass of the working substance crosses the boundary of the system

5. The universal gas constant (or molar constant) of a gas is the product of
  1. The molecular mass of the gas and constant
  2. Atomic mass of the gas and the gas constant
  3. The molecular mass of the gas and the specific heat at constant pressure
  4. The molecular mass of the gas and the specific heat at constant volume
6. The ..... states that the change of internal energy of a perfect gas is directly proportional to the change of temperature
  1. Boyle's law
  2. Charle's law
  3. Gay-Lussac law
  4. Joule's law
7. Which of the following is an intensive property of a thermodynamic system?
  1. Pressure
  2. Volume
  3. Temperature
  4. Density
8. A process, in which the gas is heated or expanded in such a way that the product of its pressure and volume remains constant is known as
  1. Isothermal process
  2. Hyperbolic process
  3. Adiabatic process
  4. Polytropic process
9. An adiabatic process is one in which
  1. No heat enters or leaves the gas
  2. The temperature of the gas changes
  3. The change in internal energy is equal to the mechanical work done

4. All of the above
10. The efficiency of joule cycle is
  1. Greater than Carnot cycle
  2. Less than Carnot cycle
  3. Equal to Carnot cycle
  4. None of these
11. Is an isothermal process,
  1. There is no change in temperature
  2. There is no change in enthalpy
  3. There is no change in internal energy
  4. All of these
12. Carnot cycle consists of
  1. Two constant volume and two isentropic processes
  2. Two isothermal and two isentropic processes
  3. Two constant pressure and two isentropic processes
  4. One constant volume one constant pressure and two isentropic processes
13. Otto cycle consists of
  1. Two constant volume and two isentropic processes
  2. Two constant pressure and two isentropic processes
  3. Two constant volume and two isothermal processes
  4. One constant pressure, one constant volume and two isotropic processes
14. Diesel cycle consists of
  1. Two constant volume and two isentropic
  2. Two constant pressure and two isentropic
  3. Two constant pressure, one constant volume and two isentropic
  4. One constant pressure, one constant volume and two isentropic
15. The amount of heat generated per kg of fuel is known as

1. Calorific value
  2. Heat energy
  3. Lower calorific value
  4. Higher calorific value
16. The **thermodynamic cycle** on which the petrol engine works is
1. Otto cycle
  2. Joule cycle
  3. Rankine cycle
  4. Stirling cycle
17. Which of the following gas has the highest calorific value?
1. Coal gas
  2. Producer gas
  3. Mond gas
  4. Blast furnace gas
18. In a four-stroke cycle engine, the sequence of operation is
1. Suction, compression, expansion and exhaust
  2. Suction, expansion, compression and exhaust
  3. Expansion, compression, suction and exhaust
  4. Compression, expansion, suction and exhaust
19. In a petrol engine, the mixture has the lowest pressure at the
1. The beginning of suction stroke
  2. End of suction stroke
  3. End of suction stroke
  4. None of these
20. Which of the following statement is correct regarding petrol engine?
1. A fine fuel spray mixed with air is ignited by the heat of compression, which is at a high pressure

2. The fuel supplied to the engine cylinder is mixed with a necessary amount of air and the mixture is ignited with the help of a spark plug
  3. The fuel is first evaporated after passing through a carburettor and is mixed with air before ignition
  4. All of the above
21. Stoichiometric ratio is
1. The chemically correct air-fuel ratio by weight
  2. The chemically correct air-fuel ratio by volume
  3. The actual air-fuel ratio for maximum efficiency
  4. None of the above
22. If the temperature of intake air in **internal combustion engine** increases, then its efficiency
1. Remain same
  2. Decrease
  3. Increase
  4. None of the above
23. When two bodies are in thermal equilibrium with a third body, they are also in thermal equilibrium with each other. This statement is called.
1. Zeroth law of thermodynamics
  2. First law of thermodynamics
  3. The second law of thermodynamics
  4. Kelvin Planck's law
24. Mond gas is obtained by
1. Partial combustion of coal, coke, anthracite coal or charcoal in a mixed air steam blast
  2. Carbonization of bituminous coke
  3. Passing steam over incandescent coke
  4. Passing air and a large amount of steam over waste coal at about 650C

25. The voltage required to produce a spark across the gap, between the sparking points is
1. 2000 to 4000 volts
  2. 4000 to 6000 volts
  3. 6000 to 10000 volts
  4. 10000 to 12000 volts
26. A diesel engine is ..... as compared to the petrol engine, both running at rated load
1. Equally efficient
  2. Less efficient
  3. More efficient
  4. None of the above
27. The firing order in an IC engine depends upon
1. The arrangement of the cylinders
  2. Design of crankshaft
  3. Number of cylinders All of these
  4. All of these
28. Which of the following does not relate to a compression ignition engine
1. Fuel pump
  2. Fuel injector
  3. Governor
  4. Carburettor
29. Which of the following does not relate to a spark ignition engine?
1. Ignition coil
  2. Spark plug
  3. Carburettor
  4. Fuel injector
30. A coil ignition system of petrol engines, a condenser is connected to the contact breaker in order to

1. Prevent sparking across the gap between the points
2. Cause more rapid of the primary current, giving a higher voltage in the secondary circuit
3. Both (1) and (2)
4. None of the above