1. A definite area or space where some thermodynamic process takes place is known as

A thermodynamic system B thermodynamic cycle

C thermodynamic process D thermodynamic law

2. Which of the following is an intensive property of a thermodynamic system?

A volume B Temperature

C mass D energy

3. Temperature at which the volume of the gas becomes 0 is called

A absolute scale of temperature B absolute 0 temperature

C absolute temperature D none of these

4. The unit of energy in SI units is

A joule B joule metre

C watt D joule/metre

5. 1 joule is equal to

A 1 Nm B kNm

C 10 Nm/s D 10 kNm/s

6. In an irreversible process there is a

A loss of heat B no loss of heat

C gain of heat D no gain of heat

7. The following is an SI engine

A diesel engine B petrol engine

C gas engine D none of the above

8. In a 4 stroke cycle petrol engine during suction stroke

A only air is sucked in B only petrol is sucked in

C mixture of petrol and air is sucked in

D none of the above

9. The thermal efficiency of petrol engine as compared to diesel engine is

A lower B higher

C same for same power output D same for same speed

10. Compression ratio of diesel engines may have a range

A 8 to 10 B 10 to 15

C 16 to 20 D none of the above

11 The thermal efficiency of good I.C engine at the rated load is in the range of

A 80 to 90% B 60 to 70%

C 30 to 35% D 10 to 20%

12 Carburettor is used for

A SI engines B gas engines

C CI engines D none of the above

13 In SI engine to develop high voltage for spark plug

A battery is installed B distributor is installed

C carburetor is installed D ignition coil is installed

14 In a four cylinder petrol engine the standard firing order is

A 1-2-3-4 B 1-4-3-2

C 1-3-2-4 D 1-3-4-2

15 The knocking is SI engines increases with

A increase in inlet air temperature B increase in compression ratio

C increase in cooling water temperature D all of the above

16 Petrol commercially available in India for Indian passenger cars has octane number in the range

A 40 to 50 B 60 to 70

C 80 to 85 D 95 to 100

17 The knocking tendency in C.I engines increases with

A decrease of compression ratio B increase of compression ratio

C increasing the temperature of inlet air D increasing cooling water temperature

18 The air standard otto cycle comprises

A two constant pressure processes and two constant volume processes

B two constant pressure and two constant entropy processes

C two constant volume processes and two constant entropy processes

D none of the above

19 The thermal efficiency of theoretical otto cycle

A increases with increase in compression ratio

B increases with increase in isentropic index gamma

C does not depend upon the pressure ratio

D follows of the above

20 Thermal efficiency of a gas turbine plant has compared to diesel engine plant is

A higher B lower

C same D may be higher or lower

21 Mechanical efficiency of a gas turbine as compared to internal combustion

Reciprocating engine is

A higher B lower

C same D unpredictable

22 For a gas turbine the pressure ratio may be in the range

A 2 to 3 B 3 to 5

C 16 to 18 D 18 to 22

23 Thermal efficiency of a closed cycle gas turbine plant increases by

A reheating B intercooling

C regenerator D all of the above

24With the increase in pressure ratio thermal efficiency of a simple gas turbine

Plant with fixed turbine inlet temperature

A decreases B increases

C first increases and then decreases D first decreases and then increases

25In two stage turbine plant, reheating after first stage

A increases work ratio B decreases work ratio

C does not affect work ratio D none of the above

26For a jet propulsion unit , ideally the compressor work and turbine work are

A equal B unequal

C not related to each other D unpredictable

27 Various kinematic pairs are given below.choose the lower pair

A ball bearings B tooth gears in mesh

C camm and follower D crank shaft and bearing

28The relation between the number of pairs forming a kinematic chain and the

Number of links is

A l=2p-2 B l=2p-3

C l=2P-4 D l=2p-5

29In a reciprocating engine

A crankshaft and flywheel form 2 kinematic links

B crankshaft and flywheel form 1 kinematics links

C crankshaft and flywheel do not form kinematic links

D flywheel and crankshaft separately form kinematic links

30A kinematic chain is known as a mechanism when

A none of the link is fixed

B one of the links is fixed

C two of the links are fixed

D all of the links are fixed

31 Which of the following is an inversion of single slider crank chain?

A beam engine

B watt's indicator mechanism

C elliptical trammels

D whitworth quick return motion mechanism

32 control volumes refer to

A a fixed region in space

B a specified mass

C an isolated system

D a closed system

33An isentropic process is always

A irreversible and adiabatic

B reversible and isothermal

C friction less and irreversible

D reversible and adiabatic

34Work done in a free expansion process is

A 0

B minimum

C maximum

D positive