QUESTIONS

1) In First angle projection method
   (a) Plan comes above elevation
   (b) Plan comes below elevation
   (c) Plan comes besides elevation
   (d) Plan is on the left hand side.

2) Where LHSV in third angle projection method
   (a) On Right hand side
   (b) On Left hand side
   (c) Below the Elevation
   (d) Below the Plan

3) What is the unit of work
   (a) Joule
   (b) Newton
   (c) Calorie
   (d) a & b
   (e) a & c

4) What is the unit of Luminous Intensity
   (a) Candela
   (b) Ampere
   (c) Kelvin
   (d) Hertz

5) Inductance is the
   (a) Fundamental unit
   (b) Derived unit
   (c) Functional unit
   (d) Conclusive unit

6) Anemometer is used for
   (a) Temperature
   (b) Velocity
   (c) Volume
   (d) Pressure
(7) Thermocouple is used for
   (a) Temperature
   (b) Velocity
   (c) Volume
   (d) Pressure

(8) Manometer is used for
   (a) Temperature
   (b) Velocity
   (c) Volume
   (d) Pressure

(9) Extension, Dimension, and Leader lines are drawn generally with
   (a) 2H
   (b) HB
   (c) B
   (d) 4H

(10) What type of dimensioning is used in the following figure.
(a) Unidirectional
(b) Aligned
(c) Directional
(d) Unaligned

11) The diesel engines are known as
(a) Compression ignition
(b) Spark ignition
(c) Combustion ignition
(d) HC ignition

12) In a four stroke cycle, the minimum temperature inside the engine cylinder occurs at the
(a) Beginning of the suction stroke
(b) End of suction stroke
(c) Start of exhaust stroke
(d) Start of power stroke

13) Theoretically four stroke engine should develop how much power than two stroke engine
(a) Half
(b) Same
(c) Double
(d) Four times

14) In water tube boiler

(a) Water passes through the tubes surrounded by flames and hot gases
(b) The flames and hot gases pass through the tubes surrounded by water
(c) Forced circulatin takes place
(d) None of these

15) Which of these statement is wrong
(a) Locomotive boiler is a fire tube boiler
(b) Water tube boilers are externally fired
(c) Cochran is a fire tube boiler
(d) Babcock and Wilcox is a fire tube boiler.

(16) Which of the following is mounting
    (a) Spring loaded safety valve
    (b) Economiser
    (c) Air preheater
    (d) Superheater

(17) Which of the following is accessory of the boiler
    (a) Air preheater
    (b) Superheater
    (c) Economiser
    (d) All of the above
(18) Which angle of projection is used in the following figure

(a) First angle  
(b) Second angle  
(c) Third angle  
(d) Fourth angle

(19) The following is the symbol of which angle projection system

(a) First angle  
(b) Second angle  
(c) Third angle  
(d) Fourth angle

(20) Which is the example of compressible fluid.

(a) Air  
(b) Mercury  
(c) Water  
(d) Alcohol
(21) Compressible fluid is defined as
(a) Density changes
(b) Density does not change
(c) Mass changes
(d) Mass does not change

(22) Following is the figure of
(a) Centrifugal pump
(b) Reciprocating pump
(c) De-Laval nozzle
(d) Air compressor.

(23) What is not there in the petrol engine
(a) Carburettor
(b) Spark plug
(c) Fuel
(d) Fuel pump

(24) Ability to do work is
(a) Energy
(b) Work
(c) Heat
(d) I.C. engine
(25) Boiler means any closed vessel exceeding ____ capacity
   (a) 22.7 litres
   (b) 227 litres
   (c) 0.227 litres
   (d) 227 kg.

(26) How many base quantities are there
   (a) 2
   (b) 3
   (c) 6
   (d) 7

(27) Length, mass and time are__________
   (a) Base quantities
   (b) Derived quantities
   (c) Super quantities
   (d) Derived constants

(28) Which of the following are vector quantities
   (a) Acceleration
   (b) Displacement
   (c) Velocity
   (d) All of the above

(29) Which of the following are scalar quantities
   (a) None of the below
   (b) All of the below
   (c) Pressure
   (d) Momentum

(30) What is the least count of Vernier used in your schools
   (a) 0.01 mm
   (b) 0.01 cm
   (c) 0.001 cm
   (d) 0.001 mm

(31) Vernier scale how much length is divided into 10 divisions
   (a) 9 cm
   (b) 10 cm
   (c) 12 cm
   (d) 15 cm
(32) One complete turn of micrometer screw thimble measures
   (a) 0.5 mm
   (b) 5 mm
   (c) 1 mm
   (d) 0.05 mm

(33) Which of the following is correct
   (a) Two stroke engines are lighter than four stroke
   (b) Four stroke engines are lighter than two stroke
   (c) There are ports in four stroke engine
   (d) Two stroke engine has 2 valves

(34) Indicated power is
   (a) Power actually developed by engine
   (b) Actual power developed by engine
   (c) Power available at crank shaft
   (d) Power measured through dynamometer

(35) Name the third stroke of four stroke engine
   (a) Compression stroke
   (b) Suction stroke
   (c) Ignition stroke
   (d) Power stroke

(36) Crank shaft rotates how many revolutions for one complete cycle in two stroke
   (a) One
   (b) Two
   (c) Half
   (d) Three

(37) Which part converts reciprocating motion of piston into rotary motion of crank shaft
   (a) Crank shaft
   (b) Cam shaft
   (c) Follower
   (d) Connecting rod

(38) Ideally ignition should begin at
   (a) TDC
   (b) BDC
   (c) Before BDC
   (d) After TDC
(39) What type of motion flue gases generate in a Babcock and Wilcox boiler
   (a) Cosine
   (b) sine
   (c) cosec
   (d) tan

(40) Pump can not be driven by
   (a) Electric motor
   (b) I.C. Engine
   (c) Stem Engine
   (d) Compressor

(41) Vane Pump is a _______ of Pump
   (a) Positive Displacement Type
   (b) Rot dynamic Type
   (c) Impulse Type
   (d) Reciprocation Type

(42) Function of foot valve is
   (a) To Prevent reverse flow when pump is stopped
   (b) To Protect pump from excessive Pressure
   (c) To control flow rate through pump
   (d) To increase Pressure of liquid

(43) The Process of filling liquid, which is to be pumped up to delivery valve is called
   (a) Idling
   (b) Presetting
   (c) Priming
   (d) Charging

(44) Function of volute casing is to
   (a) Convert Pressure energy of water into Kinetic energy
   (b) Convert Kinetic energy of water into Pressure energy
   (c) Convert Mechanical Work into Kinetic energy of water
   (d) Convert Mechanical Work into Pressure energy of water
(45) Based on the types of blade pump can be classified as
   (a) Backward curved blade
   (b) Radial blade
   (c) Forward curved blade
   (d) All of above

(46) To get almost continuous supply from reciprocating pump_________ is Provided
   (a) Foot valve
   (b) Pressure gauge
   (c) Air Chamber
   (d) Fly wheel

(47) Compressor in which compression of air takes place on both side of piston is called ________ compressor
   (a) Single acting
   (b) Double acting
   (c) Single stage
   (d) Multi stage

(48) Scroll compressor is ______ compressor
   (a) Reciprocating
   (b) Rotary
   (c) Dynamic
   (d) Radial

(49) Which types of valves are used in air compressor
   (a) Cam operated
   (b) Pressure Differential
   (c) Crank operated
   (d) Piston operated

(50) ________ Compression is desirable
   (a) Polytropic
   (b) Adiabatic
   (c) Isothermal
   (d) Constant Volume
(51) As Clearance ratio increases, volumetric efficiency of a compressor________
   (a) Increases
   (b) Decreases
   (c) Remains unaffected
   (d) May Increases or Decreases

(52) Due to multi staging volumetric efficiency of compressor __________
   (a) Increases
   (b) Decreases
   (c) Remains unaffected
   (d) Can’t say

(53) Advantage of multi staging compression is________
   (a) Work input increases
   (b) Small size flywheel is required
   (c) Leakage loss increases
   (d) Amount of lubricant required increases

(54) Volute Casing has a ________ Cross section
   (a) Increased
   (b) Decreased
   (c) Same
   (d) Can’t say

(55) Pressure ratio achieved by axial flow air compressor is up to_______
   (a) 6
   (b) 10
   (c) 20
   (d) 30

(56) An axial flow air compressor is a ________ compressor
   (a) Positive displacement reciprocating
   (b) Radial flow Dynamic
   (c) Axial flow Dynamic
   (d) Positive displacement rotary

(57) As index of compression increases, work done per cycle by compressor _______
   (a) Increases
   (b) Remains same
   (c) Decreases
   (d) Can’t say
(58) Shaft is subjected to _______
   (a) Bending load only
   (b) Torsional load only
   (c) Both bending and torsional load only
   (d) Neither bending nor torsional loading

(59) Axle is subjected to _______
   (a) Bending load only
   (b) Torsional load only
   (c) Both bending and torsional load only
   (d) Neither bending nor torsional loading

(60) When two shaft are to be rotated in opposite direction _______ is used
   (a) Open belt
   (b) Crossed belt
   (c) Stepped Pulley
   (d) Fast and loose pulley

(61) When driving shaft rotate continuously but driven shaft operate intermittently ______ drive used
   (a) Open belt
   (b) Quarter twist
   (c) Stepped pulley
   (d) Fast and loose pulley

(62) To transmit power through long distance
   (a) Flat belt
   (b) V belt
   (c) Timing belt
   (d) B or C

(63) To transmit power from electric motor through reciprocating compressor of small and medium capacity ______ belt is used
   (a) Flat belt
   (b) V belt
   (c) Timing belt
   (d) None of the above

(64) Which types of belt have a highest transmission efficiency
   (a) Flat belt
   (b) V belt
   (c) Timing belt
   (d) A and B both
(65) Speed of machine spindle can be varied in stepped using ________
    (a) Solid pulley
    (b) Split pulley
    (c) Speed cones
    (d) Guide pulley

(66) Friction drive is used for ______ load transmission
    (a) Light
    (b) Light and medium
    (c) Medium
    (d) Heavy

(67) Spur gear have teeth ________ to the axes of the gear
    (a) Inclined
    (b) Perpendicular
    (c) Parallel
    (d) Any of above

(68) Bevel gear are used to connect ________ shaft
    (a) Inclined
    (b) Intersecting
    (c) Parallel
    (d) Any of above

(69) ________ can be used to convert rectilinear motion in to circular motion
    (a) Rack and Pinion
    (b) Worm gear
    (c) Bevel gear
    (d) Helical gear

(70) Function of the idler gear is to obtain ________ direction of rotation for driver and follower
    (a) Same
    (b) Opposite
    (c) Any of A and B
    (d) None of the above

(71) The platform on which the fuel is burn is called
    (a) Fire box
    (b) Grate
    (c) Fire hole
    (d) Ash pan
(72) The hole through which coal is added to the furnace is called
   (a) Man hole
   (b) Hand hole
   (c) Fire hole
   (d) Ash pan

(73) Which of the following is intensive property
   (a) Energy
   (b) Enthalpy
   (c) Density
   (d) Entropy

(74) Which of the following is extensive property?
   (a) Pressure
   (b) Temperature
   (c) Density
   (d) Energy

(75) For isolated system what can cross the boundary of the system
   (a) Only mass
   (b) Only energy
   (c) Mass and energy both
   (d) Neither mass nor energy

(76) When heat is added to the water and if its temperature does not change, the heat added is called
   (a) Latent heat
   (b) Sensible heat
   (c) Isothermal heat
   (d) Constant pressure heat

(77) Condition of steam between saturated liquid and saturated vapour state is called
   (a) Superheated
   (b) Saturated
   (c) Wet
   (d) Subcooled

(78) Boiling point of water at 1 atmosphere is
   (a) 273 k
   (b) 0 k
   (c) 100 k
   (d) 418 k
(79) Specific enthalpy of vapourization of wet steam is given by
(a) \( h_{fg} \)
(b) \( xh_{fg} \)
(c) \( xp_{fg} \)
(d) \( p_{fg} \)

(80) If dryness fraction of steam equal to 0.8 condition of steam will be
(a) Wet
(b) Saturated
(c) Subcooled
(d) superheated

(81) For combined separating and throttling calorimeter dryness fraction of steam will be
(a) \( X= X_1 + X_2 \)
(b) \( X= X_1 \cdot X_2 \)
(c) \( X=X_1 - X_2 \)
(d) \( X=X_1 / X_2 \)

(82) Throttling is
(a) Isothermal process
(b) Constant pressure process
(c) Isenthalpic process
(d) Constant entropy process
(e) Reversible adiabatic process

(83) For steam what is correct
(a) \( V_f >> V_g \)
(b) \( V_f << V_g \)
(c) \( V_f = V_g \)
(d) \( V_f >= V_g \)

(84) Isothermal is the special case of polytopic process when value of polytropic index is
(a) 0
(b) 1
(c) \( \infty \)
(d) \( \gamma \)

(85) For adiabatic process choose the wrong statement
(a) \( Q=0 \)
(b) \( W=-\Delta U \)
(c) \( Q=\Delta U \)
(d) \( PV'=C \)
(86) Specific heat at constant pressure $c_p$ is defined as

(a) $C_p = \partial U / \partial T$

(b) $C_p = \partial h / \partial T$

(c) $C_p = \partial V / \partial T$

(d) $C_p = \partial P / \partial T$

(87) Choose the wrong statement for isothermal process

(a) $P_1 V_1 = P_2 V_2$

(b) $P_1 V_1 = mRT_2$

(c) $P_1 V_1 = mRT_1$

(d) $P_1 / V_1 = P_2 / V_2$

(88) Numerical value of universal gas constant is

(a) 8.3143 J/kg k

(b) 83.143 J/kg k

(c) 8.3143 KJ/kg k

(d) 831.43 J/kg k

(89) At normal temperature and pressure all gases occupy \_________ m$^3$ of volume

(a) 22.4 litres

(b) 2.24 litres

(c) 224.5 litres

(d) 0.224 litres

(90) Choose the correct statement

(a) $C_p - C_v = R$

(b) $C_v - C_p = R$

(c) $C_p / C_v = R$

(d) $C_v / C_v = R$

(91) According to Gay lussacs law what is constant

(a) Pressure

(b) Volume

(c) Temperature

(d) enthalpy

(92) $R$ bar is known as

(a) Universal gas constant

(b) Characteristic gas constant

(c) Joules characteristic index

(d) Specific gas constant
(93) Power actually developed by engine is known as
   (a) Brake power
   (b) Indicated power
   (c) Friction power
   (d) Dynamic power

(94) In two stroke engine ports are operated by
   (a) Piston
   (b) Piston pin
   (c) Connecting rod
   (d) Cam rod
   (e) Rocker arm

(95) Mechanical efficiency of two stroke engine compared to four stroke engine is
   (a) Higher than
   (b) Lower than
   (c) Comparable to
   (d) None of the above

(96) Specific fuel consumption of two stroke engine compared to four stroke engine is
   (a) Higher than
   (b) Lower than
   (c) Comparable to
   (d) None of the above

(97) Piston is generally made from
   (a) Mild steel
   (b) Aluminium alloys
   (c) Bronze
   (d) brass

(98) Piston speed equal to
   (a) 2LN
   (b) LN
   (c) DN
   (d) 2DN

(99) During expansion stroke
   (a) Both valves remain closed
   (b) Both valves remain open
   (c) Only inlet valve remain closed
   (d) Only exhaust valve remain closed
The subject of EME is
(a) Hard
(b) Easy
(c) Interesting
(d) Hard and interesting
(e) Neither hard nor interesting
(f) Only hard