UPSSSC JE

Previous Year Paper
Mechanical 2016
Paper 2 - English

125 Questions

Que. 1 | The diameter of rivets for a 20 mm thick plate would be.
1.   10 mm
2. 20 mm
3. 30 mm
4. 40 mm

Testbook Solution   Correct Option **- 3**

Que. 2 | Included angle for the Acme thread is -
1.   29°
2. 45°
3. 55°
4. 60°

Testbook Solution   Correct Option **- 1**

Que. 3 | A fluid in which resistance to deformation is independent of the shear stress, is known as -
1.   Bingham plastic fluid
2. Pseudo plastic fluid
3. Dilatants fluid
4. Newtonian fluid

Testbook Solution   Correct Option **- 4**

Que. 4 | Material for water turbine should have
1.   High creep resistance
2. High temperature resistance
3. High corrosion resistance
4. Low ductility

Testbook Solution   Correct Option **- 3**

Que. 5 | Best fuel for S.I. engines is -
1.   Aromatic
2. Naphthalene
3. Paraffins
4. Olefins

Testbook Solution   Correct Option **- 1**

Que. 6 | A cycle consisting of one constant pressure, one constant volume and two isentropic processes is known as
1. Carnot cycle

2. Stirling cycle

3. Otto cycle

4. Diesel cycle

Testbook Solution Correct Option - **4**

Que. 7 The compression ratio for petrol engines is:

1. 3 to 6

2. 8 to 10

3. 20 to 30

4. 15 to 20

Testbook Solution Correct Option - **2**

Que. 8 The discharge through a turbine is

1. Directly proportional to $H^{\frac{1}{2}}$

2. Inversely proportional to $H^{\frac{1}{2}}$

3. Directly proportional to $H^{\frac{3}{2}}$

4. Inversely proportional to $H^{\frac{3}{2}}$

Testbook Solution Correct Option - **1**

Que. 9 In a centrifugal pump when delivery valve is fully closed, the pressure of fluid inside the pump will -

1. Become zero

2. Reduce

3. Increase

4. Remain unaltered

Testbook Solution Correct Option - **3**

Que. 10 The constant volume cycle is also called

1. Carnot cycle

2. Joule cycle

3. Diesel cycle

4. Otto cycle

Testbook Solution Correct Option - **4**

Que. 11 The property of a material which enables it to resist fracture due to high impact loads is known as

1. elasticity

2. endurance

3. strength

4. toughness

Testbook Solution Correct Option - **4**

Que. 12 The gears are termed as medium velocity gears if their peripheral velocity is:

1. 1 - 3 m/s
2. 3 - 15 m/s
3. 15 - 30 m/s
4. 30 - 50 m/s

Testbook Solution Correct Option - **2**

Que. 13 Principal planes are planes having

1. Maximum shear stress
2. No shear stress
3. Minimum shear stress
4. None of the above

Testbook Solution Correct Option - **2**

Que. 14 Torsion bars are in parallel

1. if same torque acts on each
2. if they have equal angles of twist and applied torque apportioned between them
3. if they have unequal angles of twist
4. if their ends are connected together

Testbook Solution Correct Option - **2**

Que. 15 Swaying couple is resisted by -

1. inner section of the rails
2. side pressure between the flanges of the wheels
3. Both in (1) and (2)
4. None of these

Testbook Solution Correct Option - **3**

Que. 16 Second law of thermodynamics defines -

1. Entropy
2. Enthalpy
3. Heat
4. Work

Testbook Solution Correct Option - **1**

Que. 17 In wheel and differential axle, the velocity ratio is given by

1. $\frac{d_1 - d_2}{2D}$
2. $\frac{d_1 - d_2}{4D}$
3. $\frac{2D}{d_1 - d_2}$
4. $\frac{3D}{d_1 - d_2}$

Testbook Solution Correct Option **- 3**

Que. 18 The maximum and minimum speeds of a flywheel during a cycle are N_1 and N_2 r.p.m. respectively. The coefficient of steadiness of the flywheel is

1. $\dfrac{N_1 - N_2}{2(N_1 + N_2)}$

2. $\dfrac{N_1 + N_2}{2(N_1 - N_2)}$

3. $\dfrac{2(N_1 + N_2)}{N_1 - N_2}$

4. $\dfrac{N_1 + N_2}{N_1 - N_2}$

Testbook Solution Correct Option **- 2**

Que. 19 The energy loss in flow through nozzle as compared to venturimeter is

1. Same

2. More

3. Less

4. More/less depending on flow

Testbook Solution Correct Option **- 2**

Que. 20 The shear stress in a fluid flowing in a round pipe-

1. is constant over the cross-section

2. is zero at the wall and increases linearly to the center

3. is zero at the center and varies linearly with radius

4. varies parabolically across the section

Testbook Solution Correct Option **- 3**

Que. 21 Stanton diagram is a plot of -

1. Friction factor against Reynolds number

2. Friction factor against log of Reynolds number

3. Log of friction factor against Reynolds number

4. Log of friction factor against log of Reynolds number

Testbook Solution Correct Option **- 4**

Que. 22 If N is speed of arm and ball about the spindle axis, the height of a Watt's governor (in meter) is given by

1. $\dfrac{8.95}{N^2}$

2. $\dfrac{89.5}{N^2}$

3. $\dfrac{895}{N^2}$

4. $\dfrac{8.95}{N}$

Testbook Solution Correct Option **- 3**

Que. 23 If for power transmission, a gear train consisting of 12 gears is used, then the motion of the driver and follower will be in the

1. Same direction
2. Opposite direction
3. Both (1) and (2)
4. None of these

Testbook Solution Correct Option - **2**

Que. 24 As per IBR, the efficiency of double-riveted butt joint with the double cover strap of equal width should be -

1. 63 to 70%
2. 70 to 83%
3. 80 to 90%
4. 85 to 95%

Testbook Solution Correct Option - **2**

Que. 25 When a ship travels in a sea, which of the following effects is more dangerous?

1. Steering
2. Pitching
3. Rolling
4. All of the above

Testbook Solution Correct Option - **3**

Que. 26 To transmit power from one rotating shaft to another whose axes are neither parallel nor intersecting, use -

1. Spur gear
2. Spiral gear
3. Crown gear
4. Worm gear

Testbook Solution Correct Option - **4**

Que. 27 Efficiency of rankine cycle can be increased by

1. Decreasing initial steam pressure and temperature
2. Increasing exhaust pressure
3. Decreasing exhaust pressure
4. Increasing the expansion ratio

Testbook Solution Correct Option - **3**

Que. 28 The steam temperature with increase in load in case of boiler fitted with radiation superheater

1. Increases
2. Decreases
3. Remains Unaffected

4. First increase then decrease

Testbook Solution Correct Option **- 2**

Que. 29 The steam temperature with increase in load in case of boiler fitted with radiation superheater

1. Increases
2. Decreases
3. Remains Unaffected
4. first increase then decrease

Testbook Solution Correct Option **- 2**

Que. 30 High elastic modulus in materials arises from

1. High strength of bonds
2. Weak bonds
3. Combination of bonds
4. None of these

Testbook Solution Correct Option **- 1**

Que. 31 Von mises and Tresca criteria give different yield stress for

1. Uni-axial stress
2. Balanced bi-axial stress
3. Pure shear stress
4. All of these

Testbook Solution Correct Option **- 3**

Que. 32 Dimensional formula for young's modulus of elasticity is

1. $ML^{-1}T^{-2}$
2. MLT^2
3. $M^{-1}L^{-1}T^1$
4. $ML^{-2}T^2$

Testbook Solution Correct Option **- 1**

Que. 33 The young's modulus E, the shear modulus G and the Poisson's ratio μ for material are related by the expression

1. $E = 2G(1 + \mu)$
2. $E = 3G(1 - \mu)$
3. $E = 3G(1 - 2\mu)$
4. $E = 3G(1 + 2\mu)$

Testbook Solution Correct Option **- 1**

Que. 34 When mild steel is subjected to tensile loading, the fracture will be of

1. Star Shape
2. Flat type

3. Cup-and cone shape

4. Granular shape

Testbook Solution   Correct Option **- 3**

Que. 35   For an irreversible process entropy change is

1. greater than $\frac{dQ}{T}$

2. equal to $\frac{dQ}{T}$

3. less than $\frac{dQ}{T}$

4. equal to zero

Testbook Solution   Correct Option **- 1**

Que. 36   The basis for measuring a thermodynamic property of temperature is given by

1. Zeroth law of thermodynamics

2. First law of thermodynamics

3. Second law of thermodynamics

4. Third law of thermodynamics

Testbook Solution   Correct Option **- 1**

Que. 37   Sometimes the pump work in the vapour power cycle neglected because

1. The pumps work is not considered in efficiency of vapour power cycle

2. The pump work is very small compared to the heat addition

3. The pump work is very small compared to the turbine work

4. None of the above

Testbook Solution   Correct Option **- 3**

Que. 38   The maximize the work output at the turbine, the specific volume of working fluid should be

1. As small as possible

2. As large as possible

3. Constant throughout the cycle

4. None of the above

Testbook Solution   Correct Option **- 2**

Que. 39   Which processes do the Rankine cycle contains?

1. Two isothermal and two isochoric processes

2. Two isentropic and two isobaric processes

3. Two isentropic and two isothermal processes

4. Two isothermal and two isobaric processes

Testbook Solution   Correct Option **- 2**

Que. 40   A wet vapour can be completely specified by _____

1. Pressure only
2. Temperature only
3. Specific volume only
4. Pressure and dryness fraction

Testbook Solution Correct Option - **4**

Que. 41 Dryness fraction of steam is defined as

1. Mass of water vapour in suspension / mass of water vapour in suspension + mass of dry steam
2. mass of dry steam / mass of water vapour in suspension
3. mass of dry steam / (mass of dry steam + mass of water vapour in suspension)
4. Mass of water vapour in suspension / mass of dry steam

Testbook Solution Correct Option - **3**

Que. 42 Only throttling calorimeter is used for measuring

1. Very low dryness fraction upto 0.7
2. Very high dryness upto 0.98
3. Dryness fraction of only low pressure steam
4. Dryness fraction of only high pressure steam

Testbook Solution Correct Option - **2**

Que. 43 Maximum efficiency of spiral gears is equal to

1. $\dfrac{cos(\theta+\phi)+1}{cos(\theta-\phi)+1}$
2. $\dfrac{cos(\theta+\phi)-1}{cos(\theta-\phi)+1}$
3. $\dfrac{cos(\theta+\phi)+1}{cos(\theta-\phi)-1}$
4. $\dfrac{cos(\theta+\phi)-1}{cos(\theta-\phi)-1}$

Testbook Solution Correct Option - **1**

Que. 44 Change in enthalpy of a system happens with the heat is supplied at

1. constant pressure
2. constant volume
3. constant temperature
4. constant heat

Testbook Solution Correct Option - **1**

Que. 45 Throttling is _____ process.

1. Reversible
2. Irreversible
3. Adiabatic
4. Isothermal

Testbook Solution Correct Option - **2**

Que. 46 Throttling is _____ process.
   1.   Reversible
   2.   Irreversible
   3.   Adiabatic
   4.   Isothermal

Testbook Solution Correct Option - **2**

Que. 47 Entropy change depends on
   1.   Mass transfer
   2.   Pressure transfer
   3.   Volume transfer
   4.   Heat transfer

Testbook Solution Correct Option - **4**

Que. 48 A Carnot cycle has:
   1.   One reversible adiabatic and one reversible isothermal
   2.   Two reversible adiabatic and two reversible isothermal
   3.   Two isothermal and two adiabatic
   4.   Above (1) and (2) both

Testbook Solution Correct Option - **2**

Que. 49 A Carnot cycle has:
   1.   One reversible adiabatic and one reversible isothermal
   2.   Two reversible adiabatic and two reversible isothermal
   3.   Two isothermal and two adiabatic
   4.   Above (1) and (2) both

Testbook Solution Correct Option - **2**

Que. 50 The equivalent length of a simple pendulum which gives the same frequency as compound pendulum is
   1. $\dfrac{h}{K_G^2 + h^2}$
   2. $\dfrac{K_G^2 + h^2}{h}$
   3. $\dfrac{h^2}{K_G^2 + h^2}$
   4. $\dfrac{K_G^2 + h^2}{h^2}$

Testbook Solution Correct Option - **2**

Que. 51 Two beams have the same width but the first beam has double the depth of the second beam. The elastic strength of the first beam compared to the second beam will be

1. four times
2. double
3. eight times
4. half

Testbook Solution Correct Option - **1**

Que. 52 When torque is applied on any shaft the value of shear stress is:
1. Uniform in cross section
2. Maximum at circumference
3. Minimum at circumference
4. None of the above

Testbook Solution Correct Option - **2**

Que. 53 An ideal gas as compared to a real gas at very high pressure occupies
1. More volume
2. Less volume
3. Same Volume
4. None of the above

Testbook Solution Correct Option - **2**

Que. 54 $\left(p + \frac{a}{V^2}\right)(V - b) = R$ is known as _____ equation.
1. Vander waal's
2. Maxwell
3. Real gas
4. Ideal gas

Testbook Solution Correct Option - **1**

Que. 55 Heat is _____ in thermodynamics
1. Point functions
2. Path functions
3. line function
4. None of the above

Testbook Solution Correct Option - **2**

Que. 56 Under certain polytropic process value of n = 1. It is _____ process.
1. Adiabatic
2. Reversible
3. Irreversible
4. Isothermal

Testbook Solution Correct Option - **4**

Que. 57 A simply supported beam at its end of length 'l' and carries a uniform distributed load of ω kg per unit length. The bending moment at mid-span will be:

1. $wl^2/2$
2. $wl^2/8$
3. $wl^2/4$
4. $wl^2/16$

Testbook Solution Correct Option - **2**

Que. 58 Mostly diamond riveted joint is preferred in _____ joints.

1. butt
2. lap
3. Double riveted lap joints
4. all of the above

Testbook Solution Correct Option - **1**

Que. 59 A cylindrical section having no joint is known as:

1. Lap section
2. Jointless section
3. Seamless section
4. Butt section

Testbook Solution Correct Option - **3**

Que. 60 Ratio of longitudinal stress to hoop stress in a thin cylinder is

1. equal
2. half
3. one-fourth
4. four times

Testbook Solution Correct Option - **2**

Que. 61 At principal planes in combined stresses

1. No stress occur
2. No tensile stress and shear stress is maximum
3. The normal stress is maximum or minimum and shear stress is zero
4. All stresses are maximum

Testbook Solution Correct Option - **3**

Que. 62 Under tensile testing on mild steel, the breaking stress is _____ as compared to ultimate stress:

1. more
2. same
3. less
4. two times

Testbook Solution Correct Option - **3**

Que. 63 The material expands freely due to heating, it will develop:

1. Thermal stress
2. Tensile stress
3. Bending stress
4. No stress

Testbook Solution Correct Option - **4**

Que. 64 If a material expands freely due to heating, it will develop

1. Thermal stress
2. Tensile stress
3. Compressive stress
4. No stress

Testbook Solution Correct Option - **4**

Que. 65 The fracture in cast iron occur due to compression (direction of load) test along its

1. load
2. perpendicular to axis of load
3. oblique plane
4. None of above

Testbook Solution Correct Option - **3**

Que. 66 A beam is loaded as cantilever. If the load at the end is increased, the failure will occur:

1. In the middle
2. At the tip below the load
3. At the support
4. Anywhere

Testbook Solution Correct Option - **3**

Que. 67 For a riveted joint design, diameter of rivet 'd' in terms of plate thickness 't' is equal to

1. $d = 1.2(t)^{1/2}$
2. $d = 6.05(t)^{1/2}$
3. $d = 5.06(t)^{1/2}$
4. $d = 2.1(t)^{1/2}$

Testbook Solution Correct Option - **2**

Que. 68 The distribution of stresses in a thick spherical shell are:

1. Parabolic in nature
2. Uniform in nature
3. Cubic in nature
4. Hyperbolic in nature

Que. 69 | The distribution of stresses in a thick spherical shell are:

1.   Parabolic in nature

2. Uniform in nature

3. Cubic in nature

4. Hyperbolic in nature

Que. 70 | The planes of minimum shear stress with reference to principal planes are located at

1.   45°

2. 90°

3. 0°

4. 180°

Que. 71 | Section modulus is defined as

1. $\dfrac{Moment\ of\ inertia\ about\ the\ neutral\ axis}{Square\ of\ the\ distance\ of\ neutral\ axis\ from\ farthest\ point}$

2. $\dfrac{Moment\ of\ inertia\ about\ the\ neutral\ axis}{Distance\ of\ the\ most\ distant\ point\ from\ the\ neutral\ axis}$

3. $\dfrac{Bending\ moment}{Moment\ of\ Inertia}$

4. None of the above

Que. 72 | The radius of wire stretched by a load is halved then its young's modulus will be:

1.   Half

2. Unaffected

3. Doubled

4. Become four times

Que. 73 | _____ quality material with stand upon impact load

1.   Compressive strength

2. Tensile strength

3. Hardness

4. Toughness

Que. 74 | For the same material, length and torque of a hollow shaft, its weight _____ as solid shaft

1.   more than

2. less than

3. equal to

4. None of the above

Testbook Solution Correct Option - **2**

Que. 75 The centre of the 'Mohr's circle' for a two-dimensional stress system lies

1. On X-axis

2. On Y-axis

3. On Z-axis

4. On 45° of X-axis

Testbook Solution Correct Option - **1**

Que. 76 The radius of the 'Mohr's circle' gives the value of

1. Minimum normal stress

2. Maximum normal stress

3. Maximum shear stress

4. Minimum shear stress

Testbook Solution Correct Option - **3**

Que. 77 A simply supported beam of length 3 m carries a concentrated load of 12 kN at a distance of 1 m from left support. The maximum bending moment in the beam is

1. 12 kNm

2. 24 kNm

3. 8 kNm

4. 16 kNm

Testbook Solution Correct Option - **3**

Que. 78 The point of contra flexure is a point where

1. shear force changes sign

2. bending moment changes sign

3. shear force is maximum

4. bending moment is maximum

Testbook Solution Correct Option - **2**

Que. 79 The point of contra flexure is a point where

1. shear force changes sign

2. bending moment changes sign

3. shear force is maximum

4. bending moment is maximum

Testbook Solution Correct Option - **2**

Que. 80 The shear force at the centre of a circular shaft under torsion is

1. minimum

2. zero

3. maximum

4. none of above

Testbook Solution Correct Option - **2**

Que. 81 The governor is said to be unstable when the radius of rotation of balls _____ as the equilibrium speed increases.

1. increases

2. decreases

3. remain constant

4. fluctuate

Testbook Solution Correct Option - **2**

Que. 82 The governor is said to be unstable when the radius of rotation of balls _____ as the equilibrium speed increases.

1. increases

2. decreases

3. remain constant

4. fluctuate

Testbook Solution Correct Option - **2**

Que. 83 The cam follower should move with _____ in high-speed engines.

1. S.H.M

2. Uniform velocity

3. Cycloidal motion

4. None of the above

Testbook Solution Correct Option - **3**

Que. 84 Strain in a direction at right angles to the direction of applied force is known as

1. lateral strain

2. shear strain

3. longitudinal strain

4. volumetric strain

Testbook Solution Correct Option - **1**

Que. 85 A continuous beam is one which has

1. single supports

2. two supports only

3. above (1) and (2) both

4. more than two supports

Testbook Solution Correct Option - **4**

Que. 86 The strength of the beam mainly depends on
1. Bending moment
2. Its weight
3. Section modulus
4. C.G. of the section

Testbook Solution Correct Option - **3**

Que. 87 A spherical vessel with an inside diameter of 2 m is made of a material having allowable stress in the tension of 500 kg/cm^2. The thickness of a shell to withstand a pressure of 50 kg/cm^2 should be
1. 5 cm
2. 2.5 cm
3. 10 cm
4. 1.25 cm

Testbook Solution Correct Option - **1**

Que. 88 Section modulus Z is expressed as
1. I / Y
2. M / I
3. E / I
4. E.I

Testbook Solution Correct Option - **1**

Que. 89 In case of a circular section the section modulus is given as
1. $\pi d^2/16$
2. $\pi d^3/16$
3. $\pi d^3/32$
4. $\pi d^3/64$

Testbook Solution Correct Option - **3**

Que. 90 In normal loading condition point contra flexure occur only in -
1. Cantilever beam
2. Over hanging beam
3. Simply supported beam
4. All of above

Testbook Solution Correct Option - **2**

Que. 91 For uniformly distributed load (UDL) to nature of curve for shear force diagram will be:
1. Straight horizontal line
2. Straight inclined line
3. Parabolic curve
4. Any curve

Testbook Solution Correct Option - **2**

Que. 92 | Maximum shear stress is Mohr's circle is

1. Equal to radius of Mohr's circle
2. Greater than radius of Mohr's circle
3. Less than radius of Mohr's circle
4. None of above

Testbook Solution Correct Option - **1**

Que. 93 | Coefficient of discharge, C.D. is equal to -

1. $C_V \times C_C$
2. $C_C \times C_r$
3. $C_V + C_C$
4. $C_V - C_C$

Testbook Solution Correct Option - **1**

Que. 94 | The coefficient of velocity is determined experimentally by using the relation _____

1. $C_v = \sqrt{\dfrac{y^2}{4xH}}$
2. $C_v = \sqrt{\dfrac{x^2}{4yH}}$
3. $C_v = \sqrt{\dfrac{4xH}{y^2}}$
4. $c_v = \sqrt{\dfrac{4yH}{x^2}}$

Testbook Solution Correct Option - **2**

Que. 95 | Pitot tube is used for measurement of -

1. Pressure
2. Velocity
3. Flow
4. Discharge

Testbook Solution Correct Option - **2**

Que. 96 | The number of members in a perfect frame having J number of joint is equal to -

1. 2J - 1
2. 3J - 2
3. 2J - 3
4. 2J - 2

Testbook Solution Correct Option - **3**

Que. 97 | The periodic time of a simple pendulum depends on

1. Mass of bob

2. Amplitude
3. Length of pendulum
4. All of the above

Testbook Solution Correct Option **- 3**

Que. 98 At the principal plane in Mohr's circle -
1. The shear stress is maximum
2. The shear stress is zero
3. Normal stress is zero
4. Tensile stress is zero and shear stress is maximum

Testbook Solution Correct Option **- 2**

Que. 99 The ratio of brake horse power indication horse power is called -
1. Mechanical efficiency
2. Overall efficiency
3. Indicating thermal efficiency
4. Brake thermal efficiency

Testbook Solution Correct Option **- 1**

Que. 100 Steam nozzle converts
1. Heat energy to kinetic energy
2. Kinetic energy to heat energy
3. Heat energy to potential energy
4. Potential energy to heat energy

Testbook Solution Correct Option **- 1**

Que. 101 The specific weight of water in M system is taken as -
1. 1 gram/cm^3
2. 1000 liter/m^3
3. 1000 kg/m^3
4. All the above

Testbook Solution Correct Option **- 3**

Que. 102 The specific gravity of water is taken as
1. 0.001
2. 0.01
3. 0.1
4. 1

Testbook Solution Correct Option **- 4**

Que. 103 The absolute pressure is equal to

1. Gauge pressure + Vaccum pressure
2. Atmospheric pressure + Vaccum pressure
3. Gauge pressure + Atmospheric pressure
4. Gauge pressure - Vaccum pressure

Testbook Solution Correct Option **- 3**

Que. 104	A piezometer tube is used only for measuring

1. moderate pressure
2. low pressure
3. high pressure
4. vacuum pressure

Testbook Solution Correct Option **- 1**

Que. 105	Bernoulli's equation is applied to -

1. Venturimeter
2. Orifice meter
3. Pitot tube
4. All of the above

Testbook Solution Correct Option **- 4**

Que. 106	The power transmitted by a belt is maximum when the maximum tension in the belt compared to centrifugal tension is _____ .

1. 2 times
2. 3 times
3. 4 times
4. 2.5 times

Testbook Solution Correct Option **- 2**

Que. 107	The maximum permissible velocity of belt is given by -

1. $\sqrt{\dfrac{Tg}{3w}}$
2. $\sqrt{\dfrac{2Tg}{3w}}$
3. $\sqrt{\dfrac{3Tg}{2w}}$
4. $\sqrt{\dfrac{3Tg}{w}}$

Testbook Solution Correct Option **- 1**

Que. 108	In involutes gear, the normal to the involutes is tangent to the

1. Pitch circle
2. Base circle
3. Addendum circle

4.   Dedendum circle

Testbook Solution Correct Option **- 2**

Que. 109 | In a Hartnell governor, if the stiffness of spring is increased, then the governor will be
1.   more sensitive
2.   less sensitive
3.   hunting
4.   insensitive

Testbook Solution Correct Option **- 2**

Que. 110 | If gear and pinion both are made of the same material then load transmitting capacity is decided by -
1.   Gear
2.   Pinion
3.   Any one of two
4.   None of these

Testbook Solution Correct Option **- 2**

Que. 111 | The air and fuel ratio of a petrol engine is controlled by -
1.   Carburettor
2.   Injector
3.   Governor
4.   All of the above

Testbook Solution Correct Option **- 1**

Que. 112 | Indicating power of four-stroke Engine is expressed as
1.   PLAN
2.   2PLAN
3.   PLAN/2
4.   4PLAN

Testbook Solution Correct Option **- 3**

Que. 113 | The function of the fuel pump in petrol engine is -
1.   Inject fuel in cylinder
2.   Supply fuel when carburettor fail
3.   Pump fuel to reach it in carburettor
4.   None of these

Testbook Solution Correct Option **- 3**

Que. 114 | Which of the following is boiler accessories -
1.   Safety valve
2.   Pressure gauge

3. Water level indicator
4. Super heater

Testbook Solution Correct Option - **4**

Que. 115 Rope brake dynamometer uses -
1. Oil as lubricant
2. Water as lubricant
3. Grease as lubricant
4. No lubricant

Testbook Solution Correct Option - **4**

Que. 116 Coefficient of fluctuation of energy of an engine -
1. Variation of energy above or below the mean resisting torque
2. Ratio of maximum and minimum energy
3. Ratio of maximum fluctuation of energy to the work done per cycle
4. None of above

Testbook Solution Correct Option - **3**

Que. 117 In the belt transmission system initial tension in the belt when stationary is -
1. T_1
2. T_2
3. $T_1 + T_2$
4. $T_1 + T_2/2$

Testbook Solution Correct Option - **4**

Que. 118 The unit of power in SI unit is -
1. Newton
2. Pascal
3. Joule
4. Watt

Testbook Solution Correct Option - **4**

Que. 119 The relation between specific heat C_P and C_V is given by -
1. $C_V/C_P = \gamma$
2. $C_P - C_V = R/J$
3. $(C_P.C_V)/J = R$
4. $C_V.C_P = R/J$

Testbook Solution Correct Option - **2**

Que. 120 In a Carnot cycle, heat is transferred at _____.
1. Constant pressure

2. Constant volume
3. Constant temperature
4. Constant enthalpy

Testbook Solution Correct Option **- 3**

| Que. 121 | The first law of thermodynamics is the law of: |

1. Conservation of mass
2. Conservation of energy
3. Conservation of momentum
4. Conservation of heat

Testbook Solution Correct Option **- 2**

| Que. 122 | Carnot cycle consists of the following process - |

1. Two isothermal and two isentropics
2. Two isentropics and two constant volume
3. Two isentropics and two constant pressure
4. Two isentropics, one constant volume and one constant pressure

Testbook Solution Correct Option **- 1**

| Que. 123 | One kilowatt-hours Energy is equal to - |

1. 1 k-J
2. 100 k-J
3. 3600 J
4. 3600 kJ

Testbook Solution Correct Option **- 4**

| Que. 124 | Supercharging is the process of - |

1. Supplying the intake of an engine with air at density higher than the density of surrounding
2. Providing forced cooling air
3. Injecting excess fuel for raising more load
4. Raising exhaust pressure

Testbook Solution Correct Option **- 1**

| Que. 125 | The throw of cam is the maximum distance of the follower from |

1. Base circle
2. Pitch circle
3. Prime circle
4. Pitch curve

Testbook Solution Correct Option **- 1**