RSGSML Mechanical Engineering Questions and Answers

1. According to principle of conservation of energy, the total momentum of a system of masses in any direction remains constant unless acted upon by an external force in that direction.

A.True
B.False

Answer: B

2. The friction experienced by a body, when in motion, is known as

A.rolling friction
B.dynamic friction
C.limiting friction
D.static friction

Answer: B

3. Two balls of equal mass and of perfectly elastic material are lying on the floor. One of the ball with velocity v is made to struck the second ball. Both the balls after impact will move with a velocity

A.v
B.v/2
C.v/4
D.v/8

Answer: B

4. The term 'force' may be defined as an agent which produces or tends to produce, destroys or tends to destroy motion.

A.Agree
B.Disagree

Answer: A

5. The coefficient of restitution for elastic bodies is one.

A.Correct
B.Incorrect

Answer: B

6. The velocity ratio in case of an inclined plane inclined at angle θ to the horizontal and weight being pulled up the inclined plane by vertical effort is

A.sin θ
B.cos θ
C.tan θ
D.cosec θ

Answer: A

7. The range of projectile on a downward inclined plane is _____ the range on upward inclined plane for the same velocity of projection and angle of projection.

A.less than
B.more than
C.equal to

Answer: B

8. The angle of inclination of a vehicle when moving along a circular path _____ upon its mass.

A.depends
B.does not depend

Answer: B

9. A body of weight W is required to move up on rough inclined plane whose angle of inclination with the horizontal is α. The effort applied parallel to the plane is given by(where μ = tanφ = Coefficient of friction between the plane and the body.)

A.P = W tanα
B.P = W tan(α + φ)
C.P = W (sinα + μcosα)
D.P = W (cosα + μsinα)

Answer: C

10. If the resultant of two equal forces has the same magnitude as either of the forces, then the angle between the two forces is

A.30°
B.60°
C.90°
D.120°

Answer: D

11. One litre of water occupies a volume of

A.100 cm3
B.250 cm3
C.500 cm3
D.1000 cm3

Answer: D

12. The value of bulk modulus of a fluid is required to determine

A.Reynold's number
B.Froude's number
C.Mach number
D.Euler's number

Answer: C

13. In a depressed nappe

A.the pressure below the nappe is atmospheric
B.the pressure below the nappe is negative
C.the pressure above the nappe is atmospheric
D.the pressure above the nappe is negative

Answer: B

14. In one dimensional flow, the flow

A.is steady and uniform
B.takes place in straight line
C.takes place in curve
D.takes place in one direction

Answer: B

15. The kinematic viscosity is the

A.ratio of absolute viscosity to the density of the liquid
B.ratio of density of the liquid to the absolute viscosity
C.product of absolute viscosity and density of the liquid
D.product of absolute viscosity and mass of the liquid

Answer: A

16. The reference fuels for knock rating of spark ignition engines would include

A.iso-octane and alpha-methyl naphthalene
B.normal octane and aniline
C.iso-octane and normal hexane
D.normal heptane and iso-octane

Answer: D

17. The diesel engines are also known as _____ engines.

A.compression ignition
B.spark ignition

Answer: A

18. In a four stroke cycle, the minimum temperature inside the engine cylinder occurs at the

A.beginning of suction stroke
B.end of suction stroke
C.beginning of exhaust stroke
D.end of exhaust stroke

Answer: A

19. In hit and miss governing, the fuel supply is cut-off completely during one or more number of cycles.

A.Yes
B.No

Answer: A

20. The thermal efficiency of a standard Otto cycle for a compression ratio of 5.5 will be

A.25%
B.50%
C.70%
D.100%

Answer: B