Duration: 60 Mins **Total Marks: 25** **Q.ID: ITISKILL56469Z**

1. Which type of levers is bell cranked lever?

A) Curved lever
B) 3rd order lever
C) 2nd order lever
D) 1st order lever

Answer: A) Curved lever

2. Which is example for third order lever?

A) Forceps
B) Lime squeezer
C) A pair of scissors
D) Common balance

Answer: A) Forceps

3. What is equal to tan θ?

A) Opposite Side/Adjacent Side
B) Adjacent side/Opposite side
C) Opposite Side/Hypotenuse
D) Adjacent Side/Hypotenuse

Answer: A) Opposite Side/Adjacent Side

4. Which is example for second order lever?

A) Human forearm
B) A pair of scissors
C) Bottle opener
D) Common balance

Answer: C) Bottle opener

5. How much load is lifted if an effort of 25 kg is applied to a simple machine having velocity ratio of 4 and efficiency 75%?

A) 75 kg
B) 65 kg
C) 70 kg
D) 80 kg

Answer: A) 75 kg

6. What is the height of the building if a ladder at 45 Degree touches the building placed 16 m from the base of the building?

A) 16 m
B) 17 m
C) 15 m
D) 18 m

Answer: A) 16 m

7. What is the angle of elevation of the top of a light house of 15 m height seen at a point 15 m away from the base?

A) 90 Degree
B) 60 Degree
C) 30 Degree
D) 45 Degree

Answer: D) 45 Degree

8. What is the ratio between the distance moved by the effort to the distance moved by the load?

A) Velocity ratio
B) Mechanical advantage
C) Efficiency
D) Fulcrum

Answer: A) Velocity ratio

9. What is equal to cos θ?

A) Hypotenuse/Opposite Side
B) Hypotenuse/Adjacent Side
C) Adjacent Side/Hypotenuse
D) Opposite side/Hypotenuse

Answer: C) Adjacent Side/Hypotenuse

10. What is the height of the wall where the ladder touches the wall if the ladder is 2.5 m long makes an angle of 60 Degree with the ground?

A) 4.23 m
B) 2.165 m
C) 4.43 m
D) 4.13 m

Answer: B) 2.165 m

11. What is the name of fixed or supporting point of a lever?

A) Effort
B) Fulcrum
C) Mechanical advantage
D) Load

Answer: B) Fulcrum

12. Which is example for first order lever?

A) A wheel barrow
B) A pair of scissors
C) Fire tongs
D) Lime squeezer

Answer: B) A pair of scissors

13. What is the efficiency of a simple screw jack having velocity ratio is 314.2 and mechanical advantage is 220?

A) 0.65
B) 0.75
C) 0.7
D) 0.6

Answer: C) 0.7

14. What is the velocity ratio of a wheel and axle if the radii of wheel and axle are 375 mm and 75 mm respectively?

A) 4
B) 5
C) 6
D) 3

Answer: B) 5

15. What is the value of tan θ if sin θ = 4/5 ?

A) (5/3)
B) (3/4)
C) (4/5)
D) (4/3)

Answer: D) (4/3)

16. How many degrees is equal to one radian?

A) (Pi)/(360)
B) (180)/(Pi)

C) (Pi)/(180)
D) (360)/(Pi)

Answer: B) (180)/(Pi)

17. Which is equal to sin θ?

A) Adjacent Side/Hypotenuse
B) Opposite Side/Hypotenuse
C) Hypotenuse/Opposite side
D) Hypotenuse/Adjacent side

Answer: B) Opposite Side/Hypotenuse

18. Which type of heat transmission takes place through physical contact?

A) Radiation
B) Convection
C) Reflection
D) Conduction

Answer: D) Conduction

19. What is the S.I unit of heat?

A) Centigrade heat unit
B) Calorie
C) British thermal unit
D) Joule

Answer: D) Joule

20. What is the mechanical advantage, if a load of 1000 kg is lifted by a simple machine and effort applied is 250 kg?

A) 3
B) 6
C) 4
D) 8

Answer: C) 4

21. What is the boiling point of water in fahrenheit scale?

A) 212 Degree F
B) 100 Degree F
C) 180 Degree F
D) 112 Degree F

Answer: A) 212 Degree F

22. What is the velocity ratio of a simple machine of a mass 120 kg is lifted to a height of 5 metres by a force of 60 kg moving 15 metre. Calculate velocity ratio?

A) 2
B) 3
C) 1
D) 4

Answer: B) 3

23. Which order lever is claw hammer?

A) 3rd order lever
B) Curved lever
C) 1st order lever
D) 2nd order lever

Answer: C) 1st order lever

24. What effort required to lift a load of 150 kg in a wheel and axle, if the velocity ratio is 2.5 and the efficiency of the machine is 75%?

A) 70 kg
B) 90 kg
C) 80 kg
D) 100 kg

Answer: C) 80 kg

25. What is the distance of the load from the fulcrum called?

A) Power arm
B) Effort
C) Effort arm
D) Load arm

Answer: D) Load arm