

Post Name : Heat Engine

Exam Code : MASSXAEA

Exam Date : 21-06-2024

Exam Time : 11:15AM

Question No. 1

Which of the following flames is characterized by whitish-blue flame smaller than blue flame?

- A) Neutral flame
- B) Carburising flame
- C) Reducing flame
- D) Oxidising flame

Answer Key: D

Question No. 2

The temperature range of oxy-acetylene flame is-

- A) 1000 °C to 2000 °C
- B) 3100 °C to 3300 °C
- C) 4000 °C to 5000 °C
- D) 6000 °C to 7000 °C

Answer Key: B

Question No. 3

Which of the following is used to draw parallel lines and to find the centre of round section material?

- A) Vernier calliper
- B) Micrometer
- C) Surface gauge
- D) Pyrometer

Answer Key: C

Question No. 4

Snips are hand tools used to-

- A) Drill holes in metals
- B) Marking center of circles
- C) Cut sheet metal
- D) Measuring temperature in furnace

Answer Key: C

Question No. 5

Which of the following springs is used in heavy vehicles?

- A) Coil spring
- B) Stamp spring
- C) Rectangular spring
- D) Leaf spring

Answer Key: D

Question No. 6

The tool, which is used to enlarge a previously drilled hole, is known as the-

- A) Boring tool
- B) Turning tool
- C) Facing tool
- D) Grinding tool

Answer Key: A

Question No. 7

A micrometer has a positive error of 0.02 mm. What is the correct reading when the micrometer measures 25.41 mm?

- A) 25.39 mm
- B) 25.37 mm
- C) 25.43 mm
- D) 25.45 mm

Answer Key: A

Question No. 8

The value of each Vernier scale division of a Vernier bevel protractor is-

- A) 1°
- B) 5'
- C) 1° 55'
- D) 2° 55'

Answer Key: C

Question No. 9

While laying out, the Vernier height gauge MUST be used on the-

- A) Surface plate
- B) Vee block
- C) Machine bed
- D) Any flat surface

Answer Key: A

Question No. 10

_____ is an operation of pressing the whole surface of the edge of the plate while riveting.

- A) Fullering
- B) Brazing
- C) Perforating
- D) Slitting

Answer Key: A

Question No. 11

The commonly used standard length of hacksaw blades is-

- A) 30 mm to 50 mm
- B) 50 mm to 75 mm
- C) 90 mm to 150 mm
- D) 250 mm to 300 mm

Answer Key: D

Question No. 12

The size of a vice is specified by the-

- A) Length of the movable jaw
- B) Width of jaws
- C) Height of the vice
- D) Minimum opening of the jaws

Answer Key: A

Question No. 13

The bottom portion of the cylinder block is called-

- A) Crank case
- B) Fly wheel

C) Cam shaft

D) Timing gears

Answer Key: A

Question No. 14

Which instrument is used for measurements of 0.01 mm of accuracy?

A) Micrometer

B) Dial gauge

C) Steel rule

D) Digital protractor

Answer Key: A

Question No. 15

Which instrument has the least count of 1 mm?

A) Micrometer

B) Vernier caliper

C) Steel rule

D) Digital protractor

Answer Key: C

Question No. 16

Which of the following statements correctly represents Ohm's law?

(Where V = voltage, I = current, and R = resistance.)

A) $R = VI$

B) $V = IR$

C) $V = I/R$

D) $I = R + V$

Answer Key: B

Question No. 17

Welding is the process of joining two pieces by-

A) Fastening

B) Heating

C) Adhesives

D) Grinding

Answer Key: B

Question No. 18

Which of the following devices are considered as overcurrent protective devices?

A) Fuses

B) Circuit breakers

C) Diodes

D) Both fuses and circuit breakers

Answer Key: D

Question No. 19

A hacksaw is a type of _____ tool.

A) Measuring

B) Cutting

C) Bending

D) Fitting

Answer Key: B

Question No. 20

Inside calipers are used to measure the-

- A) Outside diameter of a tube
- B) Inside diameter of a tube
- C) Length of a tube
- D) Angle of a bend

Answer Key: B

Question No. 21

Brazing is done-

- A) Below 450 °C
- B) Above 450 °C but below the melting point of base metal
- C) Above the melting point of base metal
- D) Always above 3000 °C

Answer Key: B

Question No. 22

Taps having 3-5 threads tapered and also sometimes called second taps are known as-

- A) Taper taps
- B) Bottoming taps
- C) Plug taps
- D) Spiral taps

Answer Key: C

Question No. 23

Which of the following parts is/are associated with petrol engines only?

- A) Spark plug only
- B) Carburettor only
- C) Fuel pump only
- D) Both the spark plug and carburettor

Answer Key: D

Question No. 24

The square head of a combination set is designed with a _____ edge.

- A) 45° and 90°
- B) 25° and 50°
- C) 5° and 10°
- D) 75° and 100°

Answer Key: A

Question No. 25

Which of the following is NOT a function of a dial gauge?

- A) To measure the flatness of the object
- B) To align the job in lathe centres
- C) To check the roundness of the round bar
- D) To check the number of pitch in the fastener

Answer Key: D

Question No. 26

Which of the following is the point angle of a prick punch?

- A) 60°
- B) 30°
- C) 80°
- D) 90°

Answer Key: B

Question No. 27

The distance that a drill advances into the job in one complete revolution is known as-

- A) Feed
- B) RPM
- C) Pitch
- D) Span

Answer Key: A

Question No. 28

What is the angle at the punch point of a centre punch?

- A) 30°
- B) 45°
- C) 50°
- D) 90°

Answer Key: D

Question No. 29

What kind of mechanism is in Ackermann steering gear?

- A) Four bar crank chain with turning pair
- B) Four bar crank chain with sliding pair
- C) Three bar crank chain with turning and sliding pair
- D) Four bar crank chain with both turning and sliding pair

Answer Key: A

Question No. 30

Which of the following components in an engine mixes fuel with air and vaporizes the fuel?

- A) Catalytic converter
- B) Carburettor
- C) Oil scrapper
- D) Ignition coil

Answer Key: B

Question No. 31

Which of the following is also used for marking right angles and measuring straightness of surfaces?

- A) Chisel
- B) Centre punch
- C) Steel rule
- D) Try square

Answer Key: D

Question No. 32

Which of the following calipers is known as hermaphrodite calipers?

- A) Transfer caliper
- B) Odd-leg caliper
- C) Spring-type outside caliper
- D) Firm-joint-type outside caliper

Answer Key: B

Question No. 33

Hammers with loose heads or faulty handles will-

- A) Absorb shock
- B) Convey more leverage
- C) Cause serious accidents
- D) Have easy swing

Answer Key: C

Question No. 34

_____ do NOT allow electricity to pass through them.

- A) Conductors
- B) Semi-conductors
- C) Insulators
- D) Both conductors and semi-conductors

Answer Key: C

Question No. 35

Which of the following is/are the cause of electric fire?

- A) Loose connection
- B) Over loading the wires
- C) Electric short circuit
- D) All of the options

Answer Key: D

Question No. 36

Files are generally made of-

- A) Very low carbon steel
- B) Stainless steel
- C) Brass
- D) High carbon steel

Answer Key: D

Question No. 37

The best conductor of heat and electricity is-

- A) Copper
- B) Nickel
- C) Chromium
- D) Silicon

Answer Key: A

Question No. 38

TIG welding is also known as-

- A) Gas metal arc welding
- B) Gas tungsten arc welding
- C) Spot welding
- D) Submerged welding

Answer Key: B

Question No. 39

In an I.C. engine, the connecting rod connects which of the following pair of parts?

- A) Piston and crankshaft
- B) Cylinder and crankshaft
- C) Cylinder and piston
- D) None of the options

Answer Key: A

Question No. 40

Which tool is used for cutting internal threads?

- A) Chisel
- B) Taps

C) File

D) Wrench

Answer Key: B

Question No. 41

Which of the following is NOT a non-ferrous metal?

A) Zinc

B) Aluminium

C) Copper

D) Steel

Answer Key: D

Question No. 42

The principle of a radiator of an engine cooling system is to-

A) Act as a reservoir for the water

B) Maintain the pressure in the system

C) Transfer heat from the coolant to the outside air

D) Increase the air speed as it flows over the hot surface

Answer Key: C

Question No. 43

In a four-wheel drive, there is/are-

A) No live axle

B) One live axle

C) Two live axles

D) One dead axle

Answer Key: C

Question No. 44

Which of the following diverts power at right angles towards the driving wheels?

A) Torque tube

B) Transfer case

C) Final drive

D) Differential

Answer Key: C

Question No. 45

The central gear of an epicyclic gear set is called-

A) Ring gear

B) Sun gear

C) Planet gear

D) Internal gear

Answer Key: B

Question No. 46

For general-purpose twist drills, the helix angle is about-

A) 32°

B) 90°

C) 118°

D) 135°

Answer Key: A

Question No. 47

The composition of soft solder is-

A) Lead-37%, Tin-63%

B) Lead-50%, Tin-50%

C) Lead-63%, Tin-37%

D) Lead-60%, Tin-40%

Answer Key: A

Question No. 48

A drift is used for-

A) Drawing drill location

B) Fixing chuck on the machine spindle

C) Removing a broken drill from the work

D) Removing the drill from the machine spindle

Answer Key: D

Question No. 49

In a riveted joint the plates are placed end-to-end and jointed through cover plates. This joint is called-

A) Lap joint

B) Butt joint

C) Edge joint

D) Corner joint

Answer Key: B

Question No. 50

The basic unit of length as per SI units is-

A) Inch

B) Feet

C) Yard

D) Metre

Answer Key: D

Question No. 51

Petrol engines are also known as-

A) Spark ignition (SI) engines

B) Compression ignition (CI) engines

C) Steam engines

D) None of the options

Answer Key: A

Question No. 52

In a two-stroke engine, _____ is used in place of a valve.

A) Hole

B) Cavity

C) Chamber

D) Port

Answer Key: D

Question No. 53

Spot welding, seam welding, flash butt welding are different methods of-

A) Resistance welding

B) Friction welding

C) Thermit welding

D) Electro-slag welding

Answer Key: A

Question No. 54

Which of the following is NOT a material of conductor?

- A) Silver
- B) Brass
- C) Copper
- D) Ceramic

Answer Key: D

Question No. 55

The _____ of the electrolyte indicates the state of charge of the battery.

- A) Colour
- B) Mass
- C) Viscosity
- D) Specific gravity

Answer Key: D

Question No. 56

Which of the following is an angular measuring instrument?

- A) Micrometer
- B) Steel rule
- C) Bevel protractor
- D) Vernier caliper

Answer Key: C

Question No. 57

TIG welding and MIG welding are examples of-

- A) Arc welding
- B) Gas welding
- C) Resistance welding
- D) Electron-beam welding

Answer Key: A

Question No. 58

What is meant by an engine's stroke?

- A) Diameter of the cylinder
- B) Full travel of the piston along the cylinder
- C) Combustion area
- D) Thickness of the piston

Answer Key: B

Question No. 59

The terms caster and camber are related to the-

- A) Lubrication system
- B) Wheel alignment process
- C) Combustion process
- D) Exhaust system

Answer Key: B

Question No. 60

Which of the following is NOT part of a rivet?

- A) Head
- B) Shank
- C) Tail
- D) Tang

Answer Key: D

Question No. 61

One kilo-volt is equal to-

- A) 10 V
- B) 100 V
- C) 1000 V
- D) 10000 V

Answer Key: C

Question No. 62

The mechanical device used for holding jobs is called a/an-

- A) Mallet
- B) Vice
- C) Anvil
- D) Saw

Answer Key: B

Question No. 63

Which shaping tool has flat steel bars with rows of cutting teeth?

- A) File
- B) Chisel
- C) Twist bit
- D) Cutting torch

Answer Key: A

Question No. 64

Which file is used for high-quality finishing?

- A) Rough file
- B) Bastard file
- C) Second-cut file
- D) Dead-smooth file

Answer Key: D

Question No. 65

The curved part of a file separating the tang from the body is known as the-

- A) Shoulder
- B) Heel
- C) Edge
- D) Face

Answer Key: A

Question No. 66

Which of the following files has individual, sharp, pointed teeth in a line?

- A) Rasp-cut file
- B) Curved-cut file
- C) Single-cut file
- D) Double-cut file

Answer Key: A

Question No. 67

Which of the following holding devices has holes for clamping purposes?

- A) Surface plate
- B) V-block
- C) Angle plate
- D) Bench vice

Answer Key: C

Question No. 68

Which of the following hammers has a chisel-like end on one side?

- A) Brick hammer
- B) Brass hammer
- C) Sledge hammer
- D) Ball-peen hammer

Answer Key: A

Question No. 69

In automobiles, silencer or muffler is a component of-

- A) Exhaust system
- B) Fuel system
- C) Cooling system
- D) Comfort system

Answer Key: A

Question No. 70

Which of the following is a component of cooling system in engine?

- A) Turbocharger
- B) Air filter
- C) Catalytic converter
- D) Radiator

Answer Key: D

Question No. 71

Which of the following component of automobile absorbs shocks and provides comfortable ride for the passengers?

- A) Clutch
- B) Gear box
- C) Radiator
- D) Suspension

Answer Key: D

Question No. 72

Which of the following helps change the direction of vehicle movement?

- A) Suspension
- B) Steering
- C) Braking
- D) Seating

Answer Key: B

Question No. 73

Battery capacity is measured in-

- A) Mho
- B) Ampere
- C) Watt
- D) Ampere-hour

Answer Key: D

Question No. 74

Which of the following instruments has ratchet stop?

- A) Vernier caliper
- B) Micrometer

C) Feeler gauge

D) Bevel protractor

Answer Key: B

Question No. 75

Which of the following joining processes does NOT require heat?

A) Fastening

B) Welding

C) Brazing

D) Soldering

Answer Key: A