

## FINAL ANSWER KEY

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Question1:-Which optical instrument is used for measuring small angular difference?

- A:-Optical flat
- B:-Auto- collimator
- C:-Interferometer
- D:-Profilometer

Correct Answer:- Option-B

Question2:-Which locking device is used on jobs subjected to sudden shocks and vibrations?

- A:-Castel nut
- B:-Peen ring
- C:-Swan nut
- D:-Lock nut

Correct Answer:- Option-A

Question3:-Which safety guard is forms an integral part of the machine and cannot be removed?

- A:-Fixed guards
- B:-Trip guards
- C:-Interlocking guards
- D:-Distance guards

Correct Answer:- Option-C

Question4:-Which type of snap gauge is used for measuring small jobs?

A:-Solid snap gauge

B:-Adjustable snap gauge

C:-Non-adjustable snap gauge

D:-Double end solid snap gauge

Correct Answer:- Option-D

Question5:-In outside micrometre bevelled edge of the thimble is divided into

A:-100 parts

B:-50 parts

C:-25 parts

D:-None of these

Correct Answer:- Option-B

Question6:-Which type of pressure gauge is best suited for measuring vacuum pressure?

A:-Bellows gauge

B:-Diaphragm gauge

C:-Manometer gauge

D:-Bourdon tube gauge

Correct Answer:- Option-C

Question7:-A screw is specified by its

A:-Pitch diameter

B:-Major diameter

C:-Minor diameter

D:-None of these

Correct Answer:- Option-B

Question8:-For harder material the helix angle of the drill is

A:-45 degree

B:-Less than 45 degree

C:-Between 45 to 50

D:-None of these

Correct Answer:- Option-B

Question9:-For steel rivets the cold riveting process may be used up to

A:-10 mm diameter

B:-20 mm diameter

C:-12 mm diameter

D:-24 mm diameter

Correct Answer:- Option-C

Question10:-On milling machine, one revolution of the crank in indexing head will turn its spindle to \_\_\_\_\_ degree.

A:-10°

B:-5°

C:-8°

D:-9°

Correct Answer:- Option-D

Question11:-The part of electric circuits which is used for reduce voltage drop by minimizing wiring length of a particular circuit

A:-Fuse

B:-Switch

C:-Relay

D:-Links

Correct Answer:- Option-C

Question12:-Fuses are provided in a circuit for

A:-Reduce heat

B:-Limit current

C:-Reduce resistance

D:-Step up voltage

Correct Answer:- Option-B

Question13:-Number of cells in a 12 Volt lead acid battery

A:-2

B:-4

C:-6

D:-8

Correct Answer:- Option-C

Question14:-What is the active material on a positive plate of a lead acid battery

A:-Sulphuric acid

B:-Lead peroxide

C:-Lead

D:-Sulphur oxide

Correct Answer:- Option-B

Question15:-A lead acid battery is an example for

A:-Dry cell and Secondary cell

B:-Dry cell and primary cell

C:-Wet cell and Secondary cell

D:-None of these

Correct Answer:- Option-C

Question16:-In an alternator the magnetic field is produced by

A:-Rectifier

B:-Stator

C:-Regulator

D:-Rotor

Correct Answer:- Option-D

Question17:-Voltage range of conventional type car headlamp bulb is

A:-around 100 Watts

B:-around 300 Watts

C:-around 20 Watts

D:-around 50 Watts

Correct Answer:-**Question Cancelled**

Question18:-In a starter motor with solenoid cum shift, the solenoid works

A:-for switch on the motor

B:-for engage the pinion

C:-for switch on the motor and engage the pinion

D:-for switch on the motor and ignition

Correct Answer:- Option-C

Question19:-In electronically controlled engine management systems, the components executes a particular job as per the commands from the ECM are known as

A:-Sensors

B:-Receptors

C:-Receivers

D:-Actuators

Correct Answer:- Option-D

Question20:-In electronic fuel injection systems, fuel at high pressure is stored in

A:-Feed pump

B:-High pressure pump

C:-Rail

D:-Fuel tank

Correct Answer:- Option-C

Question21:-The time period in which the inlet and exhaust valves remains opened together is called

A:-Valve lag

B:-Valve clearance

C:-Valve lead

D:-Valve overlap

Correct Answer:- Option-D

Question22:-Valve clearance ensures

A:-Complete scavenging

B:-Complete valve closure

C:-Complete valve opening

D:-Complete induction

Correct Answer:- Option-B

Question23:-The part employed for uniform wear of valve stem

A:-Valve guide

B:-Valve grinder

C:-Valve rotator

D:-Valve lapping

Correct Answer:- Option-C

Question24:-Energy developed in power stroke is stored and distributed for the idling strokes by

A:-Fly wheel

B:-Crank shaft

C:-Piston

D:-Bearings

Correct Answer:- Option-A

Question25:-Otto cycle is a

A:-Constant pressure cycle

B:-Constant temperature cycle

C:-Constant volume cycle

D:-Constant power cycle

Correct Answer:- Option-C

Question26:-What is a stoichiometric ratio?

A:-Ratio of air fuel mixture that generate no heat

B:-Ratio of air fuel mixture that provides less efficiency

C:-Ratio of air fuel mixture in that the mixture burns completely without remaining air or fuel

D:-Ratio of air fuel mixture that is more pollutant

Correct Answer:- Option-C

Question27:-Result of governor failure in a diesel engine

A:-Engine runaway

B:-Engine stall

C:-Engine over heat

D:-Engine seize

Correct Answer:- Option-A

Question28:-The part of battery coil ignition system which step up the voltage is

A:-Condenser

B:-Contact breaker

C:-Ignition coil

D:-Solenoid

Correct Answer:- Option-C

Question29:-Firing order of a six cylinder inline engine

A:-1-5-6-3-4-2

B:-1-5-3-6-2-4

C:-1-3-2-6-5-4

D:-1-6-4-2-3-5

Correct Answer:- Option-B

Question30:-The space covered by the piston during a stroke

A:-Cylinder volume

B:-Swept volume

C:-Clearance volume

D:-Total volume

Correct Answer:- Option-B

Question31:-The material used for bushing of the connecting rod small end in the floating type piston pin

A:-Nickel Cadmium

B:-Cupric Tungsten

C:-Phosphor Bronze

D:-Stainless Steel

Correct Answer:- Option-C

Question32:-What is the angle of valve seat in cylinder head?

A:-30°

B:-60°

C:-90°

D:-105°

Correct Answer:- Option-A

Question33:-Select the wrong statement about sodium cooled valves

- (i) Melting point of metallic sodium is 98.5°C
- (ii) Sodium cooled valve runs as much as 100°C cooler than conventional type valve
- (iii) This type of valves requires less care during maintenance
- (iv) Sodium bursts into flame while in contact with water

A:-Both (i) and (iii)

B:- (iii) only

C:-Both (ii) and (iv)

D:- (iv) Only

Correct Answer:- Option-A

Question34:-The harmonic balancer usually fitted

A:-at front end of the FIP

B:-on the crank web

C:-at the front end of the crankshaft

D:-on the flywheel

Correct Answer:- Option-C

Question35:-In which type liners, the packing rings are used?

A:-Asbestos Liner

B:-Disc brake Liner

C:-Wet Liner

D:-Dry Liner

Correct Answer:- Option-C

Question36:-

Which of the following statement is / are not correct about toothed belt drive

- (i) silent drive due to absence of metal- to- metal contact
- (ii) high heat built up due to pulley to belt friction
- (iii) no lubrication is required
- (iv) Cost of the drive is relatively high

A:-Both (i) and (iii)

B:-(iii) only

C:-Both (ii) and (iv)

D:-(iv) only

Correct Answer:- Option-C

Question37:-The material used for cylinder block construction

A:-Wrought Iron

B:-Grey Cast Iron

C:-Pig iron

D:-Cast Iron

Correct Answer:- Option-B

Question38:-The part of an engine which changes rotary motion into reciprocating motion

A:-Crankshaft

B:-Valve stem

C:-Camshaft

D:-Distributor assembly

Correct Answer:- Option-C

Question39:-Which is maintaining the operating temperature in the cooling system?

A:-Radiator

B:-Water pump

C:-Thermostat valve

D:-Water Jacket

Correct Answer:- Option-C

Question40:-

Which of the following statement is / are correct, if the water level falls down from required limit in the thermo-siphon system?

- (i) rate of circulation remains same
- (ii) stops the circulation of water
- (iii) high rate of circulation occurs
- (iv) Forced circulation occurs

A:-(i) only

B:-(ii) only

C:-Both (iii) and (iv)

D:-(iv) only

Correct Answer:- Option-B

Question41:-In which lubrication system is using a separate oil tank?

A:-wet type lubrication system

B:-Splash lubrication system

C:-petrol-oil lubrication system

D:-Dry sump Lubrication system

Correct Answer:- Option-D

Question42:-The temperature at which the lubricating oil changes the liquid state to solid state

A:-Pour point

B:-Cloud point

C:-Fire point

D:-Flash point

Correct Answer:- Option-A

Question43:-The gear type oil pump delivers lubricating oil at a pressure of

A:-30-40 N/cm<sup>2</sup>

B:-50-60 N/cm<sup>2</sup>

C:-10-20 N/cm<sup>2</sup>

D:-80-100 N/cm<sup>2</sup>

Correct Answer:- Option-A

Question44:-Jiggle pin is a part of

A:-Thermostat Valve

B:-Radiator

C:-Water pump

D:-Water jacket

Correct Answer:- Option-A

Question45:-The chemical which is used as an anti-freeze

A:-Tincture iodine

B:-Propylene glycol

C:-Sodium chloride

D:-Pottasium sulphate

Correct Answer:- Option-B

Question46:-

Find out the correct from following statements about cooling system

- (i) pump circulation system is fitted with positive displacement type pump
- (ii) water pump is used to pump water from lower tank of radiator to engine block
- (iii) fins are used for the purpose of increasing surface area of the cylinder
- (iv) thermo-siphon system requires less water for operation

A:-(i) Only

B:-(iii) Only

C:-(ii) and (iv)

D:-(iv) Only

Correct Answer:- Option-B

Question47:-Name the tool which is used for adjusting tappet clearance

A:-Torque wrench

B:-Radius gauge

C:-Wire gauge

D:-Feeler gauge

Correct Answer:- Option-D

Question48:-Which is the tool used to remove ridge at the top of the cylinder wall?

A:-Boring bar

B:-Cylinder hone

C:-Ridge reamer

D:-Hand reamer

Correct Answer:- Option-C

Question49:-The bellows type thermostat uses volatile liquids which boils at

A:-20-30° C

B:-70-85°C

C:-110- 120° C

D:-115°C

Correct Answer:- Option-B

Question50:-Which are the chemicals used as corrosion inhibitors in the coolant?

A:-Aldehydes

B:-Silicates

C:-Alcohols

D:-Bromides

Correct Answer:- Option-B

Question51:-The defect clutch drag is caused by which of the following reasons?

- (i) Pressure plate warped or damaged
- (ii) Oil or grease on friction faces
- (iii) Loose or worn out clutch facings
- (iv) Worn-out splines of clutch plate hub

A:-Only (i) and (ii)

B:-Only (i) and (iii)

C:-Only (i) and (iv)

D:-Only (ii) and (iv)

Correct Answer:- Option-A

Question52:-Which of the following woven type friction materials are used to make clutch facings in automobiles?

- (i) Solid variety
- (ii) Moulded type
- (iii) Sintered type
- (iv) Laminated variety

A:-Only (i) and (iv)

B:-Only (ii) and (iv)

C:-Only (i) and (ii)

D:-Only (i) and (iii)

Correct Answer:- Option-A

Question53:-In fluid flywheel if appreciable drag is experienced when the engine is idling it may be only due to which of the following reason?

A:-Vibration

B:-Clogged oil filter

C:-Upsetting of rotor

D:-Wrong grade of fluid

Correct Answer:- Option-D

Question54:-What are the advantages of constant mesh gear box when comparing it to sliding mesh type gear box?

- (i) Constant torque
- (ii) Reduced wear of dog teeth
- (iii) Can avoid spur gear
- (iv) Use of transmission fluid

A:-Only (i) and (iii)

B:-Only (ii) and (iv)

C:-Only (ii) and (iii)

D:-Only (i) and (iv)

Correct Answer:- Option-C

Question55:-In an automobile transmission system what are the probable causes of gears clash while shifting?

- (i) Incorrect clutch adjustment
- (ii) Damaged shift mechanism
- (iii) Damaged oil seal
- (iv) Thinner gear oil

A:-Only (i) and (ii)

B:-Only (ii) and (iii)

C:-Only (i) and (iii)

D:-Only (iii) and (iv)

Correct Answer:- Option-A

**Question56:-**Which of the following belongs to the advantages of a freewheel unit or freewheel clutch in transmission system?

- (i) Less reduction of torque
- (ii) Less wear on transmission
- (iii) Fuel saving
- (iv) Uniform torque

A:-Only (i) and (iii)

B:-Only (ii) and (iv)

C:-Only (i) and (ii)

D:-Only (ii) and (iii)

**Correct Answer:- Option-D**

**Question57:-**Which output member in a epicyclic or planetary gear set increases the torque?

A:-Ring gear

B:-Planet carrier

C:-Sun gear

D:-Stator

**Correct Answer:- Option-B**

**Question58:-**The overdrive to step up gear ratio in a car can be engaged only above a certain minimum speed which is usually in the range of 30 to 50 km / hr. This minimum speed is called

A:-Cut off speed

B:-Governing speed

C:-Cut in speed

D:-Cut out speed

**Correct Answer:- Option-C**

**Question59:-**In a torque converter maximum torque multiplication occurs when the turbine is stationary and impeller is running fast at the engine speed. This is called stall. The maximum torque multiplication at stall is about?

A:-1.5 to 1.8

B:-3.2 to 3.6

C:-3.8 to 4.3

D:-2.1 to 2.6

Correct Answer:- Option-D

**Question60:-**In the absence of many mechanical components the maintenance of fluid flywheel is much easier as compared friction clutches. Even faults may occur. Which of the following faults that will occur in fluid flywheel?

- (i) Large slip and drag
- (ii) Knock and fade
- (iii) Vibration and unbalance of rotor
- (iv) Crash and jerk

A:-Only (i) and (iii)

B:-Only (i) and (ii)

C:-Only (ii) and (iv)

D:-Only (iii) and (iv)

Correct Answer:- Option-A

**Question61:-**The hydrocarbons are broadly classified in to four categories. In which the paraffins with open chain structures are called?

A:-Normal paraffins

B:-Iso paraffins

C:-Lower paraffins

D:-Higher paraffins

Correct Answer:- Option-A

**Question62:-**

The methods of finding octane ratings have been standardized by Co operative Fuel Research Committee. Choose correct that methods from the following options?

- (i) CFR Research Method
- (ii) CFR Motor Method
- (iii) CFR Speed Method
- (iv) CFR Combustion Method

A:-Only (i) and (ii)

B:-Only (ii) and (iii)

C:-Only (i) and (iv)

D:-Only (iii) and (iv)

Correct Answer:- Option-A

Question63:-Which of the following two important considerations are taken while designing the combustion chamber for spark ignition engines?

A:-Fuel ratio and pre ignition

B:-Ignition time and delay period

C:-Firing order and sequence

D:-Production of turbulence and spark plug location

Correct Answer:- Option-D

Question64:-The ratio of indicated thermal efficiency of an engine to the air standard efficiency of theoretical cycle on which the engine working is called?

A:-Brake thermal efficiency

B:-Combustion thermal efficiency

C:-Mechanical efficiency

D:-Relative efficiency

Correct Answer:- Option-D

Question65:-

A small amount of fuel injected and ignited just before the main injection process. What is the name of this method to control the fuel pressure rise by smoothing the combustion pressure?

A:-Pre Injection Control Process

B:-Turbulence Injection Control Process

C:-Post Injection Control process

D:-Pilot Injection Control Process

Correct Answer:- Option-D

Question66:-

In mechanical fuel injection system fuel is forced from a mechanical fuel injection pump through injectors. Which of the following comes under mechanical fuel injection system?

(i) Low pressure fuel system

(ii) Air blast injection system

(iii) Metering injection system

(iv) Compressed air system

A:-Only (i) and (ii)

B:-Only (i) and (iii)

C:-Only (i) and (iv)

D:-Only (ii) and (iv)

Correct Answer:- Option-B

**Question67:**-During starting period the turbo charger is out of normal operation and there for diesel engine is always in the incomplete combustion due to lack of air and results in heavy smoke. Which of the following part is used to avoid excessive fuel injection in to the cylinder?

A:-Fuel rack limiter

B:-Fuel pump limiter

C:-Fuel injection limiter

D:-Fuel spray limiter

Correct Answer:- Option-A

**Question68:**-A diesel particulate filter is a major emission control device used in automobiles to meet the emission norms. This filter is also known by another name. What is the second name of that filter?

A:-Particulate Matter

B:-Particulate Protector

C:-Particulate traps

D:-Particulate Meter

Correct Answer:- Option-C

**Question69:**-In a catalytic converter which of the active material promotes oxygen storage to improve oxidation efficiency?

A:-Platinum

B:-Palladium

C:-Cerium

D:-Rhodium

Correct Answer:- Option-C

**Question70:**-Selective catalytic reduction reduces nitrogen oxides emission up to 93 %. Which of the following system components comes in selective catalytic reduction system?

(i) Mixing tube (ii) Pilot tube  
(iii) Pintle tube (iv) DEF injector

A:-Only (i) and (ii)

B:-Only (i) and (iii)

C:-Only (i) and (iv)

D:-Only (ii) and (iv)

Correct Answer:- Option-C

Question71:-The vehicle ride will be more comfortable if the:

A:-Sprung weight is kept minimum

B:-Unsprung weight is kept minimum

C:-Total vehicle weight is kept minimum

D:-All of the above

Correct Answer:- Option-B

Question72:-The gas used in modern shock absorbers is:

A:-Nitrogen

B:-Oxygen

C:-Hydrogen

D:-Carbon dioxide

Correct Answer:- Option-A

Question73:-Which of the following is considered a conventional suspension system?

A:-Coil spring suspension system

B:-Leaf spring suspension system

C:-Torsion bar suspension system

D:-Wishbone suspension system

Correct Answer:- Option-B

Question74:-Bellows are used in a:

A:-Leaf spring suspension system

B:-Air suspension system

C:-Coil spring suspension system

D:-Torsion bar suspension system

Correct Answer:- Option-B

Question75:-Lower wishbone and upper wishbone arms are used in a:

A:-MacPherson strut suspension system

B:-Wishbone type suspension system

C:-Vertical guide suspension system

D:-Air suspension system

Correct Answer:- Option-B

Question76:-In cross-ply tires, the cords are woven at an angle of :

A:-30 to 40°

B:-40 to 50°

C:-60 to 70°

D:-80 to 90°

Correct Answer:- Option-A

Question77:-The spokes are used in a:

A:-Disc wheel

B:-Alloy wheel

C:-Wire wheel

D:-Split wheel

Correct Answer:- Option-C

Question78:-The aspect ratio of a tire is the ratio of:

A:-Tire section height to tire section width

B:-Tire section width to rim height

C:-Tire section height to rim width

D:-Rim height to rim width

Correct Answer:- Option-A

Question79:-In the tire code P205/75R14 85H, the number "205" refers to the:

A:-Speed rating

B:-Load rating

C:-Aspect ratio

D:-Tire section width

Correct Answer:- Option-D

Question80:-In tire speed ratings, the letter code "T" refers to a maximum speed of:

A:-95 mph

B:-105 mph

C:-118 mph

D:-130 mph

Correct Answer:- Option-C

Question81:-The angle through which the wheel has to turn to sustain the side force (cornering force) is called:

A:-Thrust angle

B:-Cornering power

C:-Slip angle

D:-Camber

Correct Answer:- Option-C

Question82:-The angle formed in the vertical plane between the wheel's centerline and the kingpin's (or steering axis) centerline is called the:

A:-Camber

B:-Caster

C:-Combined angle (or Included angle)

D:-Steering Axis Inclination (SAI)

Correct Answer:- Option-C

Question83:-When the slip angle of the front wheels is less than that of the rear wheels, the vehicle is said to be:

A:-Oversteering

B:-Understeering

C:-Torque steering

D:-Neutral steering

Correct Answer:- Option-A

Question84:-Which of the following will help in the directional stability of the front wheels?

A:-Negative caster

B:-Positive caster

C:-Zero caster

D:-None of the above

Correct Answer:- Option-B

Question85:-In a semi-floating rear axle construction, the drive shaft has to take up:

A:-Driving torque only

B:-Weight of the vehicle only

C:-Both driving torque and the weight of the vehicle

D:-Torque reaction only

Correct Answer:- Option-C

Question86:-The primary function of a transfer case in a four-wheel-drive system is to:

A:-Multiply engine torque for high-speed highway cruising.

B:-Receive power from the transmission and distribute it to both the front and rear axles.

C:-Allow the front wheels to rotate at different speeds while cornering.

D:-Automatically shift the transmission gears based on vehicle load.

Correct Answer:- Option-B

Question87:-Excessive wear on both the inner and outer edges (shoulders) of a tire, while the center remains relatively unworn, is typically caused by:

A:-Over-inflation

B:-Under-inflation

C:-Excessive positive camber

D:-Lack of tire rotation

Correct Answer:- Option-B

Question88:-A vehicle showing heavy tread wear only on the inner edge of both front tires most likely has:

A:-Excessive positive camber

B:-Excessive negative camber

C:-Excessive toe-in

D:-Under-inflation

Correct Answer:- Option-B

Question89:-Where is the cross shaft primarily located?

A:-Inside the steering gearbox

B:-Between the clutch and the transmission

C:-Inside the brake master cylinder

D:-Along the propeller shaft

Correct Answer:- Option-A

Question90:-In the context of front-wheel geometry, "wheel rake" is a synonym for:

A:-Camber

B:-kingpin inclination

C:-Toe.in

D:-Castor

Correct Answer:- Option-A

Question91:-Why Brake fluids must be replaced periodically?

A:-By long term use it becomes thicker

B:-Brake fluid evaporates quickly

C:-It is highly hygroscopic

D:-It reacts with engine oil

Correct Answer:- Option-C

Question92:-What is called brake fading?

A:-Reaction time of driver and response time of the brakes

B:-Retarding force due to the application of brakes

C:-Brake effectiveness decreases due to prolonged application

D:-Brakes applied on front wheels only

Correct Answer:- Option-C

Question93:-What is the name of assembly which houses the brake pads and pistons?

A:-Rotor

B:-Drum

C:-Expander

D:-Caliper

Correct Answer:- Option-D

Question94:-Which controls refrigerant flow into evaporator?

A:-Condensor

B:-Drier

C:-Expansion valve

D:-Magnetic clutch

Correct Answer:- Option-C

Question95:-Where the ambient air temperature sensor is typically placed?

A:-Cylinder block

B:-Cylinder head

C:-Radiator

D:-Behind the grill or front bumper

Correct Answer:- Option-D

Question96:-Which controls the intensity of braking in an air brake system?

A:-Unloader valve

B:-Brake valve

C:-Slack adjuster

D:-Brake chamber

Correct Answer:- Option-B

Question97:-What is the process of releasing the braking pressure just before the wheels lockup and then reapplying the same by the Antilock brake system is called?

A:-Directional stability

B:-Traction control

C:-Pressure modulation

D:-Force amplification

Correct Answer:- Option-C

Question98:-Which type of master cylinder is used in axle-by-axle split system?

A:-Tandem master cylinder

B:-Single barrel master cylinder

C:-Tank type master cylinder

D:-Center feed master cylinder

Correct Answer:- Option-A

Question99:-In a hydraulic braking system what is the function of brake proportioning valve?

A:-It prevents front wheel lockup

B:-It provides balanced braking

C:-It returns brake fluid to reservoir

D:-It provides fluid to ABS

Correct Answer:- Option-B

Question100:-Which component in car's AC system ensures that only liquid refrigerant is passed to the expansion valve?

A:-Receiver-Drier

B:-Metering valve

C:-Blower

D:-Condenser

Correct Answer:- Option-A