

## PROVISIONAL ANSWER KEY

Question 166/2023/OL

Paper Code:

Category 449/2022

Code:

Exam: Mechanic

Date of Test 12-12-2023

Department Agriculture Development and Farmers Welfare

Question1:-Which of the following is not the part of tractor?

A:-Rear axle

B:-Engine

C:-Transmission

D:-Suspension

Correct Answer:- Option-D

Question2:-While starting of the tractor, the compressed air is given to

A:-Head

B:-Cylinder

C:-Crank case

D:-Air filter

Correct Answer:- Option-A

Question3:-The position of transfer case in power transmission system

A:-Mounted in the front of the engine

B:-Mounted in the back of the main transmission

C:-Mounted in the back of the differential

D:-Mounted behind the clutch and gear box

Correct Answer:- Option-B

Question4:-Purpose of spring-loaded balls in the gear shifter mechanism

A:-To hold sliding dog clutch to the gear

B:-To select the gears

C:-To hold selector shaft in locking position

D:-To lock gears in main shaft

Correct Answer:- Option-C

Question5:-Which of the following statement is/are correct about differential locking?

- i. Axle and the housing are forced to rotate as one unit
- ii. This action prevents bevel gear on the axle from turning
- iii. This action prevents in getting more speed from gear box

A:-Only (i)

B:-Only (i & ii)

C:-Only (ii & iii)

D:-All of the above (i, ii & iii)

Correct Answer:- Option-B

Question6:-Which of the following is/are the differential locks?

A:-Limited slip differential

B:-Hydraulic lock

C:-Mechanical lock

D:-All of these

Correct Answer:- Option-D

Question7:-The differential ring gear is bolted to

A:-Case flange

B:-Star gear

C:-Spider

D:-Differential housing

Correct Answer:- Option-A

Question8:-As per the ASAE and BIS standard for PTO specification, the shaft diameter is

A:-34.925 mm

B:-36.254 mm

C:-30.124 mm

D:-32.257 mm

Correct Answer:- Option-A

Question9:-The link chain of tractor serves

A:-To control the depth of implement

B:-Restricting the sideways movement of the implement

C:-Enhancing the sideways movement for field operation

D:-None of these

Correct Answer:- Option-B

Question10:-Component used to adjust the different sized seeds in the fluted roller metering device

A:-Spring loaded baffle plate

B:-Adjustable feed roll

C:-Shutter

D:-Adjustable feed cover

Correct Answer:- Option-A

Question11:-The size of the disc is given in terms of

A:-Diameter and Thickness

B:-Diameter and number of notches

C:-Thickness and number of discs on the plough bottom

D:-Plough bottom and number of gangs

Correct Answer:- Option-A

Question12:-What is the purpose of spring provided in the tyne of cultivator?

A:-For smooth operation

B:-To increase the speed

C:-Prevent damage in case of obstacles

D:-To adjust the tyne angle

Correct Answer:- Option-C

Question13:-In disc harrows, notched discs are used when the field having

A:-Sandy soils

B:-Soils with hard clay pan

C:-Soils with heavy crop residue or grass

D:-Undulating topography

Correct Answer:- Option-C

Question14:-When the clutch pedal presses, hydraulic fluid passes through the check valve and it reaches to

A:-Wheel cylinder

B:-Slave cylinder

C:-Hydraulic cylinder

D:-Master cylinder

Correct Answer:- Option-B

Question15:-In a single plate clutch, clutch cover is mounted by a set of screws on the

A:-Gear box foundation

B:-Gear box cover

C:-Fly wheel

D:-Thrust plate

Correct Answer:- Option-C

Question16:-A clutch locking drive gear is fixed

A:-On the front differential drive shaft

B:-On the main shaft

C:-Between the main shaft and the counter shaft

D:-On the back differential drive shaft

Correct Answer:- Option-A

Question17:-In wheeled tractors, the speed ratios provide for land speeds are in the range

A:-2.4 to 3.6 m/sec

B:-0.4 to 1.8 m/sec

C:-6.4 to 12.8 m/sec

D:-4.2 to 9.5 m/sec

Correct Answer:- Option-D

Question18:-Which of the following statement is/are incorrect about wheels?

(i) Able to withstand the driving and braking torque, and support the weight of the vehicle

(ii) Statistically and dynamically unbalanced

(iii) Able to adsorb road shocks

A:-Only (i)

B:-Only (i & ii)

C:-Only (ii)

D:-Only (ii & iii)

Correct Answer:- Option-C

Question19:-In the cross ply type of tyre, alternate plys are provided

A:-Radially from bead to bead

B:-Radially from tread to bead

C:-Opposite diagonal directions

D:-Parallel to the tread

Correct Answer:- Option-C

Question20:-NHTSA stands for

A:-National Highway Traffic Standard Authority

B:-National Highway Traffic Safety Administration

C:-National Highway Temperature Safety Administration

D:-National Highway Traffic Safety Authority

Correct Answer:- Option-B

Question21:-When a tire has a rating P215/65R15 89H, the number 65 represents

A:-Load capacity

B:-Rim diameter

C:-Section width

D:-Aspect ratio

Correct Answer:- Option-D

Question22:-Which electrolyte is used in maintenance free lead acid batteries?

A:-Sodium electrolyte

B:-Gelled electrolyte

C:-Potassium hydroxide electrolyte

D:-Alkaline electrolyte

Correct Answer:- Option-B

Question23:-What is the name of the process to maintain the recommended level of electrolyte in lead acid battery cell

A:-Charging the cell

B:-Topping up

C:-Charging

D:-Cycling of the cell

Correct Answer:- Option-B

Question24:-What is the need of solenoid switch in the tractor?

A:-Used to operate the over running clutch drive pinion to engage with the fly wheel ring gear

B:-Act as a relay to close the contacts between the battery and the starting motor

C:-Both (1) and (2)

D:-None of these

Correct Answer:- Option-C

Question25:-The purpose of anti-drift spring in the starting motor

A:-To prevent the pinion from striking the flywheel

B:-To limit the turning of sleeve on the armature shaft

C:-To connect the strator pinion to the flywheel

D:-To return the armature to its original position

Correct Answer:- Option-A

Question26:-Radial engines are used in?

A:-Aeroplanes

B:-Buses

C:-Cars

D:-Trucks

Correct Answer:- Option-A

Question27:-Engines having more than one cylinder is called?

A:-Two cylinder

B:-Multi cylinder

C:-Inline

D:-Radial

Correct Answer:- Option-B

Question28:-Steam engines are known as?

A:-C.I. Engines

B:-E.C. Engines

C:-I.C. Engines

D:-S.I. Engines

Correct Answer:- Option-B

Question29:-The total distance travelled by a vehicle is indicated by?

A:-Speedometer

B:-Tripmeter

C:-Odometer

D:-Ammeter

Correct Answer:- Option-C

Question30:-Pistons of modern IC engines are made by?

A:-Cast iron

B:-Aluminium alloy

C:-Mild steel

D:-Copper

Correct Answer:- Option-B

Question31:-The perpendicular distance between Crank pin and main journals of a crank shaft is called

A:-Crank Throw

B:-Crank Angle

C:-Crank web

D:-Crank Edge

Correct Answer:- Option-A

Question32:-Front end of the Engine Crank shaft is connected with?

A:-Fly wheel

B:-Connecting rod

C:-Piston ring

D:-Vibration damper

Correct Answer:- Option-D

Question33:-Lower compression ratio of diesel engine will cause?

A:-Pre Ignition

B:-Mis firing

C:-Compression leak

D:-Back firing

Correct Answer:- Option-B

Question34:-The petrol engine has the compression ratio of?

A:-15 to 24

B:-03 to 08

C:-08 to 12

D:-10 to 16

Correct Answer:- Option-C

Question35:-Cam shaft belt drive mechanism is used in the engines of?

A:-Over head cam

B:-Over head valve

C:-Side valve

D:-F-head

Correct Answer:- Option-A

Question36:-The ability of engine oil which is used for the lubrication purpose is

A:-Fire point

B:-Density

C:-Viscosity

D:-Specific gravity

Correct Answer:- Option-C

Question37:-Radiator core of I.C. engine cooling system are made with?

A:-Brass/Copper

B:-Aluminium

C:-Steel

D:-Rubber

Correct Answer:- Option-A

Question38:-Which lubrication system is equipped with Scavenge pump?

A:-Petroleum system

B:-Dry sump system

C:-Splash system

D:-Pressure system

Correct Answer:- Option-B

Question39:-Which part of the engine cooling system which maintains running temperature?

A:-Radiator

B:-Filler cap

C:-Coolant pump

D:-Thermostat valve

Correct Answer:- Option-D

Question40:-Exhaust manifolds of the I.C. engines are made with?

A:-Aluminium

B:-Steel

C:-Cast iron

D:-Zinc

Correct Answer:- Option-C

Question41:-Heavy duty Diesel engines are equipped with the air cleaner of?

A:-Dry type

B:-Oil bath type

C:-Pre type

D:-Turbulent type

Correct Answer:- Option-B

Question42:-The function of turbocharger in I.C. engines is to improve?

A:-Lubrication

B:-Cooling

C:-Viscosity

D:-Volumetric efficiency

Correct Answer:- Option-D

Question43:-Which of the fuel feed system does not use fuel feed pump?

A:-Gravity feed

B:-Pressure feed

C:-M.P.F.I. System

D:-C.R.D.I. system

Correct Answer:- Option-A

Question44:-Average injecting pressure of diesel in the diesel engines are?

A:-150 kg/sq.cm

B:-310 kg/sq.cm

C:-215 kg/sq.cm

D:-160 kg/sq.cm

Correct Answer:- Option-C

Question45:-The process of adjusting fuel delivery at different speed and load



conditions of engine in F.I. pump is?

A:-Bleeding

B:-Caliberation

C:-Phasing

D:-Greasing

Correct Answer:- Option-B

Question46:-Energy released by the complete combustion of unit mass fuel is called

A:-Specific gravity

B:-Flash point

C:-Density

D:-Calorific value

Correct Answer:- Option-D

Question47:-The device in the diesel fuel feed system which convert low pressure fuel to high pressure to inject fuel is

A:-Fuel feed pump

B:-F.I. pump

C:-Fuel pump

D:-Diaphragm pump

Correct Answer:- Option-B

Question48:-Blow by gases in the I.C. engines are recirculated by

A:-S.C.R. System

B:-Down draft system

C:-E.G.R. System

D:-Up draft system

Correct Answer:- Option-C

Question49:-Which part in the exhaust system reduces air pollution of Petrol engines?

A:-Catalytic converter

B:-Silencer

C:-Tail pipe

D:-Exhaust pipe

Correct Answer:- Option-A

Question50:-Chemical content in the engine exhaust system which cause air pollution by burnt fuel particles is

A:-Carbon dioxide

B:-Carbon monoxide

C:-Hydro carbon

D:-Sulphur dioxide

Correct Answer:- Option-B

Question51:-Which type of engine arrangement is used in Maruti 800 car?

A:-Front Transverse type

B:-Front Longitudinal type

C:-Rear Transverse type

D:-Rear longitudinal

Correct Answer:- Option-A

Question52:-Pick one example for station wagon body style vehicle?

A:-Maruti Ciaz

B:-Hyundai Santro

C:-Maruti Omni

D:-Toyota Innova

Correct Answer:- Option-D

Question53:-Which of the following statement is correct regarding differential action?

A:-When vehicle moving straight, inner wheel has more grip on road

B:-When vehicle makes a turn, star gears rotate on their own axis

C:-When vehicle makes a turn, outer wheel has more grip on road

D:-All of these

Correct Answer:- Option-B

Question54:-Which component transmission system transmit power at right angle?

A:-Differential

B:-Propeller shaft

C:-Universal joint

D:-Final drive

Correct Answer:- Option-D

Question55:-The component of torque converter which gives impeller an added torque?

A:-Stator

B:-Turbine

C:-Reaction shaft

D:-Lock up clutch

Correct Answer:- Option-A

Question56:-Which of the following is not a function of steering system?

A:-Convert rotary motion of steering wheel into angular motion of front wheel

B:-To provide permanent gear reduction in drive line

C:-To provide self-centering action after negotiating a turn

D:-To multiply driver's effort to turn the vehicle for easy operation

Correct Answer:- Option-B

Question57:-Which of the following steering system doesn't have drop arm?

A:-Worm and sector

B:-Worm and wheel

C:-Worm and nut

D:-Rack and pinion steering gearbox

Correct Answer:- Option-D

Question58:-The steering column inclination to vertical in commercial vehicle is generally about?

A:-20°

B:-50°

C:-70°

D:-90°

Correct Answer:- Option-A

Question59:-Which wheel geometry factor helps in self-centering of wheels after negotiating a turn?

A:-Camber

B:-Toe in

C:-Toe out

D:-Kingpin inclination

Correct Answer:- Option-D

Question60:-When did the vehicle will be in 'Dog tracking'?

A:-Incorrect king pin inclination

B:-Steering ratio more than 15

C:-Thrust angle is not zero

D:-Incorrect tyre pressure

Correct Answer:- Option-C

Question61:-For achieving good driving safety and comfort

A:-Unsprung mass should be large as possible

B:-Unsprung mass should be small as possible

C:-Sprung mass should be small as possible

D:-Sprung mass should be large as possible

Correct Answer:- Option-B

Question62:-Which of the suspension component absorb vibrations of high amplitude and lower frequency?

- A:-Shock absorber
- B:-Balance rod
- C:-Suspension spring
- D:-Control arms

Correct Answer:- Option-C

Question63:-What is the arrangement of inner and outer tube in telescopic shock absorber?

- A:-Offset
- B:-Eccentric
- C:-Parallel
- D:-Concentric

Correct Answer:- Option-D

Question64:-What is the disadvantages of independent suspension system?

- A:-High maintenance cost
- B:-Vibration damping is less
- C:-Shock on both wheels are depend each other
- D:-More rigid suspension

Correct Answer:- Option-A

Question65:-Which of the following is correct statement regarding rigid axle suspension system?

- A:-Rigid axle suspension has less sprung weight
- B:-This is complicated arrangement
- C:-Maintenance cost is more
- D:-Vibration damping is less effective

Correct Answer:- Option-D

Question66:-What is the principle of hydraulic brake system?

- A:-Newton's law of viscosity
- B:-Pascal's law
- C:-Newtonian fluid law
- D:-Hooke's law

Correct Answer:- Option-B

Question67:-Which type of brake system can be considered as Energy Recovery Mechanism?

- A:-Power assisted brake system
- B:-Regenerative brake system

C:-Pneumatic Brake system

D:-Vacuum assisted brake system

Correct Answer:- Option-B

Question68:-Which type of master cylinder having non-return valve provided on piston head?

A:-Centre feed master cylinder

B:-Tank master cylinder

C:-Tandem master cylinder

D:-Single barrel master cylinder

Correct Answer:- Option-A

Question69:-Which type of wheel cylinder makes different pressure on each brake shoes?

A:-Double piston with straight bore

B:-Baffle type piston wheel cylinder

C:-Single piston wheel cylinder

D:-Double piston with step bore

Correct Answer:- Option-D

Question70:-How to measure vehicle speed information in ABS?

A:-By using vehicle speed sensor

B:-With some logic using wheel speed sensor information

C:-From CKP sensor data logic

D:-By using Engine Management system

Correct Answer:- Option-B

Question71:-What is the function of ignition coil?

A:-Connect primary circuit to ignition switch

B:-Step up low voltage to high voltage

C:-Disconnect secondary winding to distributor

D:-Step down high voltage to low voltage

Correct Answer:- Option-B

Question72:-What happens when the spark plug runs too cold?

A:-high voltage surge will leak across sooty deposit formation

B:-Electrodes will wear more

C:-Electrodes will burn more rapidly

D:-Electrode gap become wider

Correct Answer:- Option-A

Question73:-What is dwell angle?

A:-Angle of CB point opening

B:-Angle of rotation of distributor cam in one crank revolution

C:-Angle of cam rotation at which CB point remain closed

D:-Angle of rotation of breaker plate

Correct Answer:- Option-C

Question74:-How many spark plugs are ignited at the same time in Distributor type electronic ignition system?

A:-1

B:-2

C:-3

D:-4

Correct Answer:- Option-A

Question75:-What does the 3rd digit of scan tool letter code indicates?

A:-Type of error code

B:-Code is manufacturer unique or not

C:-Specific failure

D:-The system in trouble code reference

Correct Answer:- Option-D

Question76:-PPE5-stands for

A:-Helmet

B:-Eyes and Face protection

C:-Ear protection

D:-Respiratory protective equipment

Correct Answer:- Option-B

Question77:-ABC of first aid stands for

A:-Airway, breathing, comfort

B:-Airway, breathing, circulation

C:-Airway, bleeding, comfort

D:-Arms protection, bleeding, comfort

Correct Answer:- Option-B

Question78:-Collisions causes

A:-Roads, vehicles, drivers

B:-Roads, vehicles, consciousness

C:-Vehicle, driver, ignorance

D:-Vehicles, drivers, careless

Correct Answer:- Option-A

Question79:-Class B fire stands for

A:-Wood, paper, cloth etc

B:-Gas and liquified gas

C:-Flammable liquid, liquitable solids

D:-Involving metals

Correct Answer:- Option-C

Question80:-The legs of inside calipers are

A:-Bend to outwards

B:-Bend to inward

C:-One straight and other outward

D:-Pointed

Correct Answer:- Option-A

Question81:-The specification of files are classified as

A:-length, shape, type, grade

B:-length, shape, cut and grade

C:-length, breadth, thickness, grade

D:-length, shape, thickness, grade

Correct Answer:- Option-B

Question82:-The part of a combination set which is used to find the center of a rod is

A:-Square head

B:-Protractor head

C:-Center head

D:-Slotted rule

Correct Answer:- Option-C

Question83:-The least count of vernier bevel protractor is

A:-5 degree

B:-5 minutes

C:-5 seconds

D:-0.005 mm

Correct Answer:- Option-B

Question84:-Portable fire proof canvas screens are used to

A:-Protect the eyes while chipping the slag

B:-Protect the persons who work near the welding area

C:-Protection and allows the welder to use both hands

D:-Protect from weld spatters

Correct Answer:- Option-B

Question85:-Flame temperature of oxy-acetylene gas flame

A:-2400°C to 2700°C

B:-2700°C to 2800°C

C:-3100°C to 3300°C

D:-1800°C to 2200°C

Correct Answer:- Option-C

Question86:-The angle of acme thread is

A:-60°

B:-29°

C:-47.5°

D:-55°

Correct Answer:- Option-B

Question87:-Studs are used to

A:-Remove the tap from a hole

B:-Connect machine parts to each other without obstruction

C:-Make an internal thread

D:-Make an external thread

Correct Answer:- Option-B

Question88:-The angle of a drill is

A:-60°

B:-49°

C:-118°

D:-59°

Correct Answer:- Option-C

Question89:-The property of wire drawing is known as

A:-Malleability

B:-Brittleness

C:-Tenacity

D:-Ductility

Correct Answer:- Option-D

Question90:-The purpose of tempering the steel

A:-To develop high hardness

B:-To develop wear resistance properties

C:-To relieve internal stresses

D:-To soften the steel



Correct Answer:- Option-C

Question91:-The ore of aluminium is

- A:-Lignite
- B:-Bauxite
- C:-Alumina
- D:-Alnico

Correct Answer:- Option-B

Question92:-The purpose of holes provided on the sine bar is

- A:-To reduce the weight
- B:-To align it on the job
- C:-To connect other measuring instruments
- D:-To make the angle visible

Correct Answer:- Option-A

Question93:-Feeler gauge is used for

- A:-To measure the distance between two mating parts
- B:-To measure the angle between mating parts
- C:-To check the diameter of a hole
- D:-To check the external diameter of a rod

Correct Answer:- Option-A

Question94:-Scrapers are used to remove

- A:-Surplus metal
- B:-High spots
- C:-Burrs
- D:-Dirts in a hole

Correct Answer:- Option-B

Question95:-Cap Nuts are used to

- A:-Frequent adjustment
- B:-Frequent removal and fixing
- C:-Protect bolt end threads
- D:-Bearing surface in assembly

Correct Answer:- Option-C

Question96:-The localized movement of belt with a direct result of the elastic strength is known as

- A:-Slip
- B:-Creep
- C:-Dressing

D:-Misalignment

Correct Answer:- Option-B

Question97:-The gear which transmit motion when the shafts are at right angles to each other

A:-Spur gear

B:-Bevel gear

C:-Mitre gear

D:-Hypoid gear

Correct Answer:- Option-B

Question98:-Keep the belt centralized even if there is any slight tendency to run off is known as

A:-Fast pulley

B:-Loose pulley

C:-Crowning

D:-Jockey pulley

Correct Answer:- Option-C

Question99:-The advantages of hydraulics are

A:-Fluid friction and leakage of oil reduce efficiency

B:-Dissipation of heat

C:-Quick reversal is possible

D:-Prevention of corrosion of internal parts

Correct Answer:- Option-C

Question100:-What reasons, air is used as a working substance is pneumatics?

A:-Limiting the working pressure to specific values

B:-Large amounts of energy can be stored in a limited space

C:-To prevent accidents and damage

D:-To produce linear reciprocating motion

Correct Answer:- Option-B