

PROVISIONAL ANSWER KEY

Question 7/2025/OL

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Code:

Exam: Junior Instructor Mechanic Agricultural Machinery

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Department Industrial Training

Question1:-Shape and colour of the warning signs are

A:-Triangular shape, black boarder and symbol on yellow background

B:-Circular shape, red boarder with cross bar and black symbol on white background

C:-Circular shape, white symbol on blue background

D:-Square shape, white symbol on green background

Correct Answer:- Option-A

Question2:-Which one of the following fire extinguishers should not be used for class B fire ?

A:-Carbon dioxide extinguisher

B:-Dry powder extinguisher

C:-Foam extinguisher

D:-Water filled extinguisher

Correct Answer:- Option-D

Question3:-Which one of the following is wrong about the testing of lifting equipment ?

A:-Inspect the lifting chain, slings and hoist before operating

B:-The lifting equipment should be calibrated once in two year

C:-Check and maintain hydraulic oil level periodically

D:-Lifting equipment should be overhauled twice a year

Correct Answer:- Option-B

Question4:-In the case of good safety practice

1. Clean your body with compressed air.

2. Leave the machine after it will stop.

A:-1 and 2 are right

B:-1 and 2 are wrong

C:-1 wrong, 2 right

D:-1 right, 2 wrong

Correct Answer:- Option-C

Question5:-_____ is a marking media used on machine finished surface, it take more time to drying than other marking media but gives very clear line.

A:-Cellulose lacquer

B:-Copper sulphate

C:-White wash

D:-Prussian blue

Correct Answer:- Option-D

Question6:-Which portion of the hammer head is left soft ?

A:-Cheek

B:-Face

C:-Wedge

D:-Pein

Correct Answer:- Option-A

Question7:-Which one of the following is used as the datum surface, while in the marking process ?

A:-Surface gauge

B:-Angle plate

C:-Surface plate

D:-V - Block

Correct Answer:- Option-C

Question8:-The pliers used for cutting off wire close to the surface level is

A:-Slip joint pliers

B:-Side cutting pliers

C:-Flat nose pliers

D:-Multi grip pliers

Correct Answer:- Option-B

Question9:-The size of bench vice is stated by

A:-Width of jaw

B:-Maximum opening of the jaws

C:-Maximum width of work that can be hold in the vice

D:-Maximum length of work that can be hold between jaws

Correct Answer:- Option-A

Question10:-In the case of a micrometer

1. Micrometer is a precision measuring instrument.

2. Pitch of the micrometer thread is 1 mm.

3. Maximum length of measurement with an outside micrometer is 25 mm.

4. Inside micrometer have a ratchet stop to ensure uniform pressure between

measuring faces.

A:-1 and 2 are right, 3 and 4 are wrong

B:-3 and 4 are right, 1 and 2 are wrong

C:-1 and 3 are right, 2 and 4 are wrong

D:-2 and 4 are right, 1 and 3 are wrong

Correct Answer:- Option-C

Question11:-The BIS set 4 of feeler gauge have 13 blades in the range of

A:-0.01 mm to 0.1 mm

B:-0.03 mm to 0.5 mm

C:-0.01 mm to 0.15 mm

D:-0.03 mm to 0.16 mm

Correct Answer:- Option-B

Question12:-About a metric vernier caliper

1. It can be used to take outside, inside and depth measurement.

2. Least count is 0.02".

3. Least count is equal to 1 vernier scale division -1 main scale division.

4. Reading is taken by, multiply least count with vernier scale reading and add it to main

scale reading.

A:-1 and 2 are right, 3 and 4 are wrong

B:-1, 2 and 4 are right, 3 is wrong

C:-1 and 4 are right, 2 and 3 are wrong

D:-All are right

Correct Answer:- Option-C

Question13:-In the case of a depth micrometer

1. The direction of main scale is opposite to an outside micrometer.

2. For different range measurements different extension rods are used.

3. The measurements are taken between stock and spindle.

A:-1 and 2 are right, 3 wrong

B:-1 and 3 are right, 2 wrong

C:-2 and 3 are right, 1 wrong

D:-All are right

Correct Answer:- Option-D

Question14:-Which of the following are used to prevent pulleys from slipping on shafts, positioning and holding collars in place, on shafts and holding shafts in place in assemblies ?

A:-Machine bolts

B:-Set screws

C:-Driver screws

D:-Cap screws

Correct Answer:- Option-B

Question15:-Which files are used for die-sinking, engraving and in silver smith's work ?

A:-Barrette files

B:-Crossing files

C:-Tinker' files

D:-Riffler files

Correct Answer:- Option-D

Question16:-It is the algebraic difference between a size, to its corresponding basic size, it may be positive, negative or Zero, what ?

A:-Zero line

B:-Toleranced size

C:-Deviations

D:-Limits of size

Correct Answer:- Option-C

Question17:-Which tool is using for installing and removing circlips ?

A:-Circlip pliers

B:-Circlip pluckers

C:-Circlip wrench

D:-Circlip compas

Correct Answer:- Option-A

Question18:-Which material is very suitable for making Box nut of Bench vice ?

A:-HSS

B:-Babbitt metal

C:-Phosphor Bronze

D:-Mild Steel

Correct Answer:- Option-C

Question19:-The _____ of a drill bit is the angle formed between the leading edge of the spiral (Flute) and the axis of the drill bit.

A:-Rake angle

B:-Point angle

C:-Clearance angle

D:-Helix angle

Correct Answer:- Option-D

Question20:-Which of the following is not a Lapping Abrasive Particle ?

A:-Aluminium Carbide

B:-Silicon Carbide

C:- $Al_2 O_3$

D:- B_4C

Correct Answer:- Option-C

Question21:-Which work holding device is suitable for grinding Large or irregularly shaped parts ?

A:-Centers or Collet chuck

B:-Faceplate or T-slot Table

C:-Vacuum Chuck

D:-None of these

Correct Answer:- Option-B

Question22:-What is the "oversize" for calculate drill size for reaming ?

A:-0.02 mm

B:-0.05 mm

C:-0.03 mm

D:-0.04 mm

Correct Answer:- Option-B

Question23:-What is the appearance of cold rolled M.S. Sheet ?

A:-Bluish black

B:-Plain silver white

C:-Bluish gray

D:-Reddish brown

Correct Answer:- Option-B

Question24:-What is the other name of knocked up seam ?

A:-Paned down seam

B:-Hammer lock seam

C:-Bottom double seam

D:-Locked grooved seam

Correct Answer:- Option-C

Question25:-Which solder is used for soldering brass, copper and jewellery ?

A:-Coars solder

B:-Eutetic alloy

C:-Common solder

D:-Extra fine solder

Correct Answer:- Option-D

Question26:-Which type of fluxes are acidic and chemically active ?

A:-Inorganic fluxes

B:-Organic fluxes

C:-Non-corrosive fluxes

D:-Passive fluxes

Correct Answer:- Option-A

Question27:-What is the capacitance value of a capacitor that requires coulomb to charge to 35 volt ?

A:-0.014 F

B:-0.025 F

C:-0.14 F

D:-0.25 F

Correct Answer:- Option-A

Question28:-Four resistors $R_1 = 100 \Omega$, $R_2 = 200\Omega$, $R_3 = 300\Omega$ and $R_4 = 400\Omega$ in a series circuit are connected across 50 V. What is the voltage drop across the resistance R_2 ?

A:-5 volt

B:-10 volt

C:-15 volt

D:-20 volt

Correct Answer:- Option-B

Question29:-What is the unit for Quantity of electricity ?

A:-Mho

B:-Ampere-second

C:-Volt/second

D:-Ampere/second

Correct Answer:- Option-B

Question30:-What is the value of resistance of the resistor if the colour coding is Orange, Red and Silver ?

A:- $330 \pm 5\%$ Ohm

B:- $3300 \pm 10\%$ Ohm

C:- $33000 \pm 5\%$ Ohm

D:- $330000 \pm 10\%$ Ohm

Correct Answer:- Option-B

Question31:-Calculate the hot resistance of 200W/250V rated lamp.

A:- 31.25Ω

B:- 62.5Ω

C:- 312.5Ω

D:-625Ω

Correct Answer:- Option-C

Question32:-What is the current carrying capacity of 32Amp. rated cable, if it is protected by the rewirable fuse ?

A:-13 Amp

B:-16 Amp

C:-26 Amp

D:-39 Amp

Correct Answer:- Option-C

Question33:-What is the internal resistance of a discharged battery ?

A:-High

B:-Low

C:-Remains same

D:-Negative

Correct Answer:- Option-A

Question34:-Three resistances $R_1(= 6\Omega)$, R_2 and $R_3(= 3\Omega)$ in a parallel circuit connected across 24 Volt, draws a total current 15 Ampere, what is the resistance value of R_2 ?

A:-2 Ω

B:-4 Ω

C:-6 Ω

D:-8 Ω

Correct Answer:- Option-C

Question35:-In a house, 5 Nos. of 40 W Tube Lights, 4 Nos. of 80 W fans, 1 No. of 120 W T.V. receiver and 4 Nos. of 60 W lamps are used for 5, 8, 5 and 4 hours/day respectively. Calculate the total energy consumed in unit's per day.

A:-5.24 unit

B:-6.42 unit

C:-5.42 unit

D:-6.24 unit

Correct Answer:- Option-A

Question36:-What happens to the resistance of LDR, if the intensity of light is increased ?

A:-Increases

B:-Decreases

C:-Remains same

D:-Becomes infinity

Correct Answer:- Option-B

Question37:-What is the output voltage of lithium cell ?

A:-1.2 V

B:-1.5 V

C:-1.8 V

D:-2.5 V

Correct Answer:- Option-D

Question38:-Which device converts sunlight into electrical energy ?

A:-Photo voltaic cell

B:-Liquid crystal diode

C:-Light emitting diode

D:-Light dependent resistor

Correct Answer:- Option-A

Question39:-How the capacity of batteries is specified ?

A:-Volt

B:-Watt

C:-Volt Ampere

D:-Ampere hour

Correct Answer:- Option-D

Question40:-The maximum reverse voltage that can be applied to the diode without destruction is

A:-Peak inverse voltage

B:-Maximum forward voltage

C:-Forward voltage

D:-Maximum average votlage

Correct Answer:- Option-A

Question41:-The ratio of dc collector current to dc base current is called

A:-dc alpha

B:-dc beta

C:-dc gamma

D:-dc delta

Correct Answer:- Option-B

Question42:-In UJT the intrinsic stand-off ratio is the property of the UJT is always

A:-Unity

B:-Greater than Unity

C:-Less than Unity

D:-Zero

Correct Answer:- Option-C

Question43:-According to Boolean algebra, the AND gate performs

A:-Logical addition

B:-Logical multiplication

C:-Logical division

D:-Logical inversion

Correct Answer:- Option-B

Question44:-Which one of the following is an electric arc welding process ?

A:-Thermit welding

B:-Friction welding

C:-Electro slag welding

D:-Forge welding

Correct Answer:- Option-C

Question45:-Which type of material used for making ARC welding electrode holder and earth clamp ?

A:-Galvanised iron

B:-High carbon steel

C:-Copper and its alloy

D:-Mild steel

Correct Answer:- Option-C

Question46:-Which of the following is not true about AC welding transformer ?

A:-Freedom from ARC blow

B:-Suitable for easy welding of non ferrous metals

C:-Step down transformer

D:-Less initial cost than DC welding machine

Correct Answer:- Option-B

Question47:-Which type of flux coated electrodes is most suitable for welding high strength steel without cracks ?

A:-Rutile electrodes

B:-Cellulosic electrodes

C:-Iron power electrodes

D:-Basic coated electrodes

Correct Answer:- Option-D

Question48:-Which one of the following is the power source of a pneumatic system ?

A:-Air receiver

B:-Compressor

C:-Valve

D:-Muffler

Correct Answer:- Option-B

Question49:-Which of the following statement is/are correct about viscosity of a liquid ?

- i. It indicates the resistance to flow.
- ii. Viscosity decreases as temperature increases.
- iii. Viscosity decreases as temperature decreases.

A:-Only i and ii

B:-Only i

C:-Only ii and iii

D:-Only iii

Correct Answer:- Option-A

Question50:-The rate of change of viscosity between two temperature is called

A:-Viscosity range

B:-Viscosity rate

C:-Viscosity index

D:-Viscosity coefficient

Correct Answer:- Option-C

Question51:-What is the working principle of a hydraulic jack ?

A:-Joule's law

B:-Newton's laws of motion

C:-Boyles law

D:-Pascal's law

Correct Answer:- Option-D

Question52:-Which of the following statement is/are correct about a diesel engine ?

- i. It is called as constant pressure cycle engine.
- ii. It is called as constant volume cycle.
- iii. It is a compression ignition engine.

A:-Only i and iii

B:-Only i

C:-Only ii

D:-Only ii and iii

Correct Answer:- Option-A

Question53:-Distance between Center of the crank pin to the Centre of the main journal of a crank shaft is known as

A:-Throw

B:-Stroke

C:-Cycle

D:-Efficiency

Correct Answer:- Option-A

Question54:-Which of the following statement is/are correct about piston pin arrangement of an IC engine ?

- i. Full floating type arrangement is used in modern IC engines.
- ii. Gudgeon pin is used to connect piston to connecting rod.
- iii. Bush bearing is provided in piston pin boss in full floating type arrangement.

A:-Only ii and iii

B:-Only i

C:-Only i and ii

D:-All the statements i, ii and iii

Correct Answer:- Option-C

Question55:-What is the term used to refer to the valve timing of an IC engine, when a valve closes after BDC ?

A:-Over lap

B:-Lead

C:-Advance

D:-Lag

Correct Answer:- Option-D

Question56:-Which of the following statement is/are correct about the property of lubricant used in an IC engine lubrication system ?

- i. Boiling temperature should be low.
- ii. It should develop foam during working.
- iii. Oil viscosity should not be same in hot and cold condition of the engine.
- iv. Oil viscosity should be suit all the operating conditions.

A:-Only iv

B:-Only i and iv

C:-Only ii

D:-Only ii, iii and iv

Correct Answer:- Option-A

Question57:-Where the thermostat valve is provided in a pressurised cooling system of an IC engine ?

A:-Coolant outlet of coolant pump

B:-Coolant outlet of cylinder head

C:-Coolant outlet of radiator

D:-Coolant outlet of coolant jacket

Correct Answer:- Option-B

Question58:-Which of the following statement is/are correct about the Turbo

chargers used in an IC engine ?

- i. Power and efficiency can be increased by using turbochargers.
- ii. Turbo chargers are driven by belt/chain through crankshaft or cam shaft pulley.
- iii. There is a chance of Turbo lag while using Turbocharger.

A:-Only i

B:-Only i and iii

C:-Only ii

D:-All of the above i, ii and iii

Correct Answer:- Option-B

Question59:-Where the positive crank case ventilation fitted in an engine ?

A:-Muffler and air cleaner

B:-Silencer and air cleaner

C:-Feed pump and air cleaner

D:-Engine breather and air cleaner

Correct Answer:- Option-D

Question60:-What is the purpose of Exhaust Gas Recirculation system in an IC engine ?

A:-To reduce Carbon Monoxide (CO) emissions

B:-To reduce Carbon dioxide emissions

C:-To reduce cold starting difficulty and recirculate unburned fuel to combustion chamber

D:-To reduce Nitrogen Oxides (NOx) emissions

Correct Answer:- Option-D

Question61:-What is the use of catalytic converters ?

A:-Control the noise

B:-Control the fuel consumption

C:-Control the emission

D:-Control the temperature

Correct Answer:- Option-C

Question62:-What is the primary function of a carburetor in an engine ?

A:-Measure exhaust gases

B:-Mix air and fuel for combustion

C:-Control engine speed

D:-Lubricate engine components

Correct Answer:- Option-B

Question63:-What is the purpose of the fuel injection pump in a diesel engine ?

A:-Clean the air-fuel mixture

B:-Pressurize fuel for injection

C:-Cool the engine

D:-Reduce noise

Correct Answer:- Option-B

Question64:-What is the function of the clutch in a vehicle ?

A:-Increase engine speed

B:-Transfer power from engine to transmission

C:-Reduce emissions

D:-Provide steering assistance

Correct Answer:- Option-B

Question65:-What is the primary function of hydraulic steering ?

A:-Increase fuel economy

B:-Provide smoother steering control

C:-Reduce braking distance

D:-Adjust suspension height

Correct Answer:- Option-B

Question66:-What is the importance of maintaining correct tire pressure ?

A:-Enhances braking performance

B:-Prolongs tire life

C:-Improves fuel efficiency

D:-All of the above

Correct Answer:- Option-D

Question67:-What is a potential danger of overloading tractor equipment ?

A:-Increased fuel efficiency

B:-Improved performance

C:-Shortened lifespan of implements

D:-Enhanced traction

Correct Answer:- Option-C

Question68:-The speed of camshaft in relation to crankshaft of an IC engine is

A:-Double

B:-Half

C:-Triple

D:-None of the above

Correct Answer:- Option-B

Question69:-The size of the gear is usually specified by

A:-Pitch surface

B:-Circular pitch

C:-Addendum

D:-Pitch circle diameter

Correct Answer:- Option-D

Question70:-Gears are used for

A:-Changing shaft direction

B:-Changing speeds

C:-Transmitting power

D:-All of the above

Correct Answer:- Option-D

Question71:-Lewis formula is used for

A:-Belt drive

B:-Chain drive

C:-Gears

D:-None of these

Correct Answer:- Option-C

Question72:-Which plough is used for breaking hard soil layers ?

A:-Disc plough

B:-Subsoiler

C:-Chisel plough

D:-Rotary plough

Correct Answer:- Option-B

Question73:-What maintenance is recommended for tillage equipment ?

A:-Daily and periodic maintenance

B:-Annual maintenance only

C:-Seasonal lubrication

D:-No maintenance is needed

Correct Answer:- Option-A

Question74:-What is a key function of a rotavator ?

A:-Remove weeds

B:-Level the soil

C:-Pulverize soil

D:-Harvest crops

Correct Answer:- Option-C

Question75:-What distinguishes disc harrows from drag harrows ?

A:-Disc harrows are used for light tillage

B:-Disc harrows cut and mix soil, drag harrows smooth it

C:-Drag harrows are powered, disc harrows are not

D:-Drag harrows are for wet conditions

Correct Answer:- Option-B

Question76:-Which of the following adjustments is crucial for safe harrow operation ?

A:-Hitching height

B:-Wheel alignment

C:-Tire pressure

D:-Fuel efficiency

Correct Answer:- Option-A

Question77:-What is a common problem in harrow operation ?

A:-Excessive soil compaction

B:-Uneven soil mixing

C:-Overheating of blades

D:-Fuel inefficiency

Correct Answer:- Option-B

Question78:-What are shovels and sweeps used for in cultivators ?

A:-Seed planting

B:-Fertilizer spreading

C:-Weed removal and soil aeration

D:-Soil leveling

Correct Answer:- Option-C

Question79:-Which equipment is used for forming bunds ?

A:-Leveler

B:-Scraper

C:-Blade terracer

D:-Bund former

Correct Answer:- Option-D

Question80:-What distinguishes a laser leveler from a conventional leveler ?

A:-Precision leveling

B:-Lower operational cost

C:-Easier maintenance

D:-Manual operation

Correct Answer:- Option-A

Question81:-Why is trouble shooting important for farm implements ?

- A:-Reduces wear and tear
- B:-Prevents operational delays
- C:-Ensures efficient performance
- D:-All of the above

Correct Answer:- Option-D

Question82:-A device placed over riser valve outlets as a means of connecting portable gated pipes to the pipeline is known as

- A:-Air vent
- B:-Gate stand
- C:-Hydrant
- D:-None of the above

Correct Answer:- Option-C

Question83:-The pressure drop permitted between two ends of a lateral in a drip irrigation system is

- A:-2%
- B:-5%
- C:-10%
- D:-15%

Correct Answer:- Option-C

Question84:-When selecting a sprinkler system, it is important to ensure that the average application rate is _____ the basic infiltration rate of the soil.

- A:-less than
- B:-equal to
- C:-more than
- D:-None of the above

Correct Answer:- Option-A

Question85:-_____ is the part of a cone spray nozzle that imparts rotation to the liquid passing through it.

- A:-nozzle tip
- B:-nozzle disc
- C:-swirl plate
- D:-none of the above

Correct Answer:- Option-C

Question86:-The lead adjustment provided to the outer end of the cutter bar, when the mower is not in operation is

- A:-1 cm per meter of cutter bar
- B:-2 cm per meter of cutter bar

C:-3 cm per meter of cutter bar

D:-5 cm per meter of cutter bar

Correct Answer:- Option-B

Question87:-_____ starter is used in high rating 3 phase motors.

A:-On-off switch

B:-Push button

C:-Direct on-line

D:-Star-Delta

Correct Answer:- Option-D

Question88:-The power operated chaff cutters are operated in the working speed range of

A:-400 – 600 rpm

B:-600 – 800 rpm

C:-800 – 1000 rpm

D:-600 – 1000 rpm

Correct Answer:- Option-D

Question89:-If a hammer mill is operated at recommended speed, its capacity depends on :

- i. rate of feeding.
- ii. hardness of feed to be ground.
- iii. size of screen opening.

A:-i and ii

B:-i and iii

C:-ii and iii

D:-i, ii and iii

Correct Answer:- Option-D

Question90:-The spray droplet diameter that divides the volume of spray into two equal parts is defined as

A:-Volume mean diameter

B:-Volume median diameter

C:-Number mean diameter

D:-Number median diameter

Correct Answer:- Option-B

Question91:-The function of the star wheel in a vertical conveyor reaper is to

A:-hold the crop in vertical position

B:-convey the crop to one side

C:-guide the crop to the cutter bar

D:-all of the above

Correct Answer:- Option-C

Question92:-A _____ pump causes a fluid to move by trapping a fixed amount of fluid and then forcing the trapped volume of fluid into the discharge pipe.

A:-Positive displacement

B:-Non positive displacement

C:-Centrifugal

D:-None of the above

Correct Answer:- Option-A

Question93:-Threshing can be accomplished by

A:-Rubbing action

B:-Impact action

C:-Stripping action

D:-All of the above

Correct Answer:- Option-D

Question94:-A single disc type furrow opener is suitable for

A:-hard soil

B:-trashy fields

C:-wet sticky soil

D:-all of the above

Correct Answer:- Option-D

Question95:-The normal ratio of peripheral speed to forward speed in a combine harvester is in the range

A:-1.00 to 1.25

B:-1.25 to 1.50

C:-1.50 to 1.75

D:-1.75 to 2.00

Correct Answer:- Option-B

Question96:-The free threshed grain carried over the rack in the straw and discharged from the combine harvester is called

A:-Grain loss

B:-Rack loss

C:-Cylinder loss

D:-Shoe loss

Correct Answer:- Option-B

Question97:-_____ are the cutting element used for cutting in flail mowers.

A:-cutting discs

B:-rotating knives

C:-swinging knives

D:-none of the above

Correct Answer:- Option-C

Question98:-Size reduction of grains occurs by impact in a

A:-Burr mill

B:-Hammer mill

C:-Both of the above

D:-None of the above

Correct Answer:- Option-B

Question99:-In a volute pump, the casing is proportioned to gradually _____ the velocity of the liquid as it flows from the impeller to the discharge.

A:-Increase

B:-Reduce

C:-Maintain

D:-None of the above

Correct Answer:- Option-B

Question100:-Grading of seeds is done to obtain good quality seeds with higher
i. germination.
ii. viability.

A:-i

B:-ii

C:-i and ii

D:-None of the above

Correct Answer:- Option-C