

FINAL ANSWER KEY

Question Paper Code:	3/2020/OL
Category Code:	095/2018
Exam:	Junior Instructor-Lift and Escalator Mechanic
Medium of Question:	English
Date of Test	22-01-2020
Department	Industrial Training Department
Alphacode	A

Question1:-The tool used for marking and testing of angles 90°

- A:-Try-square
- B:-Mitre square
- C:-Bevel square
- D:-Straight edge

Correct Answer:- Option-A

Question2:-Why rotatable bevels are used in dial indicator

- A:-The work of machine setting
- B:-Acts as an offset attachment
- C:-Prevent shocks
- D:-For making final zero setting

Correct Answer:- Option-D

Question3:-The connection link used to make a connection between sling and load to be lifted is

- A:-Pulley
- B:-Shackle
- C:-Hoist
- D:-Derricks

Correct Answer:- Option-B

Question4:-Rivet used for structural application is

- A:-Pan head
- B:-Snap head
- C:-Mush room head
- D:-Counter sunk head

Correct Answer:- Option-B

Question5:-The arc used in Electric Arc welding is

- A:-Low voltage high current
- B:-High voltage high current
- C:-Low voltage low current
- D:-High voltage low current

Correct Answer:- Option-A

Question6:-The flux used in brazing

- A:-Zinc chloride
- B:-Borax
- C:-Ammonium chloride
- D:-Alcohol

Correct Answer:- Option-B

Question7:-How many types of foundations are there based on depth?

- A:-3
- B:-4
- C:-5
- D:-2

Correct Answer:- Option-D

Question8:-Size of a wire rope specified by its.

- A:-Nominal diameter
- B:-Number of strands
- C:-Number of wire per strand
- D:-Length of wire

Correct Answer:- Option-A

Question9:-A hacksaw blade specified by its.

- A:-Length
 - B:-Material
 - C:-Width
 - D:-Number of teeth
- Correct Answer:- Option-A

Question10:-Which of the following is a solid lubricant?

- A:-Copper
- B:-Molybdenum
- C:-Graphite
- D:-Oil

Correct Answer:- Option-C

Question11:-While chipping the slag or grinding which is used to protect eyes.

- A:-Dark glass
- B:-Sun glass
- C:-Mask
- D:-Goggles

Correct Answer:- Option-D

Question12:-In which of the following drives there is no slip.

- A:-Open belt drive
- B:-Crossed belt drive
- C:-Rope drive
- D:-Chain drive

Correct Answer:- Option-D

Question13:-The point angle of centre punch is.

- A:-30°
- B:-45°
- C:-90°
- D:-120°

Correct Answer:- Option-C

Question14:-The welding process that uses non-consumable electrode is

- A:-TIG welding
- B:-MIG welding
- C:-Manual Arc welding
- D:-Submerged Arc welding

Correct Answer:- Option-A

Question15:-Washer is used to

- A:-Fill up the axial gap
- B:-Provide bearing area
- C:-Provide cushioning effect
- D:-Absorb shocks and vibrations

Correct Answer:- Option-B

Question16:-A flange coupling is used to connect two shafts

- A:-Perfectly aligned
- B:-Not in exact alignment
- C:-Lateral misalignment
- D:-Axes intersect at a small angle

Correct Answer:- Option-A

Question17:-What does COP stand for?

- A:-Car Operating Panel
- B:-Clean Oil Pits
- C:-Car Outside panel
- D:-Clean Outside Parts

Correct Answer:- Option-A

Question18:-What is the purpose of counter weight?

- A:-Balance the weight of rope
- B:-Balance the weight of car
- C:-Control the door of the car
- D:-Balance the weight of cables

Correct Answer:- Option-B

Question19:-The device designed to stop a descending car or counter weight beyond its normal limit.

- A:-Returning cam
 - B:-Pit switch
 - C:-Buffer
 - D:-Header assembly
- Correct Answer:- Option-C

Question20:-The elevator car is suspended on the main rope by means of a frame called.

- A:-Sling
 - B:-Buffer
 - C:-Machine unit
 - D:-Car body
- Correct Answer:- Option-A

Question21:-A device which acts as stopping mechanism when the elevator runs beyond its rated speed.

- A:-Limit switch
 - B:-Over speed governor
 - C:-Hydraulic ram
 - D:-Traction sheave
- Correct Answer:- Option-B

Question22:-One Micrometer is equal to.

- A:-0.1mm
 - B:-0.01mm
 - C:-0.001mm
 - D:-0.0001mm
- Correct Answer:- Option-C

Question23:-If the belt of an electric motor is broken, it needs the following type of maintenance

- A:-Corrective
 - B:-Scheduled
 - C:-Preventive
 - D:-Timely
- Correct Answer:- Option-A

Question24:-Type of maintenance is done before failure.

- A:-Preventive
 - B:-Running
 - C:-Break down
 - D:-Scheduled
- Correct Answer:- Option-A

Question25:-The device which connects the elevator car and landing doors without backlash.

- A:-Door track
 - B:-Door coupler
 - C:-Door contact
 - D:-Door motor
- Correct Answer:- Option-B

Question26:-It is used to know the elevator car position.

- A:-Landing push button
 - B:-Floor position indicator
 - C:-Door contact
 - D:-Door sill
- Correct Answer:- Option-B

Question27:-Which of the following is not a safety device on an elevator?

- A:-Door lock
 - B:-Over speed governor
 - C:-Call button
 - D:-Limit switch
- Correct Answer:- Option-C

Question28:-Compensating ropes are generally required on elevators when the travel is.

- A:-5 M
- B:-10 M
- C:-20 M
- D:-30 M or greater

Correct Answer:- Option-D

Question29:-A cylindrical rod with both ends threaded is known as.

- A:-Bolt
- B:-Tap bolt
- C:-Stud
- D:-Set-screw

Correct Answer:- Option-C

Question30:-Sliding part between elevator guide rail and car.

- A:-Thimble rod
- B:-Guide shoe
- C:-Bulldog grip
- D:-Safety edge

Correct Answer:- Option-B

Question31:-The elevator which is used to transport goods.

- A:-Passenger elevator
- B:-Service elevator
- C:-Freight elevator
- D:-Capsule elevator

Correct Answer:- Option-C

Question32:-A standard metric thread having 3 mm pitch on 40 mm diameter designated as.

- A:-40 x 3m
- B:-M40 x 3
- C:-40 x 3
- D:-M 403

Correct Answer:- Option-B

Question33:-Maximum travel height of a roped holeless hydraulic elevator is

- A:-6 m
- B:-9 m
- C:-12 m
- D:-18 m

Correct Answer:- Option-D

Question34:-To unlock door interlock when the cabin comes at the floor level in a manually operated doors.

- A:-Returning cams
- B:-Limit cam
- C:-Toe guard
- D:-Lock roller

Correct Answer:- Option-A

Question35:-The portion of a building or structure used for discharge of passenger or goods into or from a lift car.

- A:-Lift door
- B:-Lift beam
- C:-Lift pit
- D:-Lift landing

Correct Answer:- Option-D

Question36:-On a triple thread screw, lead equals.

- A:-1/3 of pitch
- B:-2/3 of pitch
- C:-2/3 of pitch
- D:-3 times of pitch

Correct Answer:- Option-D

Question37:-In a ball bearing balls are subjected to.

- A:-Compressive stress
- B:-Shear stress
- C:-Fatigue
- D:-Tensile stress

Correct Answer:- Option-C

Question38:-Bronze is welded by

- A:-Neutral flame
- B:-Carburizing flame
- C:-Oxidizing flame

D:-All of these

Correct Answer:- Option-C

Question39:-The included angle of V- Belt is usually

A:-10° - 20°

B:-20° - 30°

C:-30° - 40°

D:-60° - 70°

Correct Answer:- Option-C

Question40:-Scaffolding method is used for travel up to.

A:-70 m

B:-60 m

C:-50 m

D:-40 m

Correct Answer:- Option-D

Question41:-A moving staircase which carries people between floors of building.

A:-Lift

B:-Escalator

C:-Hoist

D:-Derrick

Correct Answer:- Option-B

Question42:-Which of the following is a scalar quantity?

A:-Force

B:-Velocity

C:-Acceleration

D:-Speed

Correct Answer:- Option-D

Question43:-The side of an escalator extending above the step.

A:-Comb plate

B:-Lower landing

C:-Balustrade

D:-Upper landing

Correct Answer:- Option-C

Question44:-String cable is used to

A:-Prevent lifting of doors

B:-Connect two door panels

C:-Fixing header to wall

D:-Support travelling cable

Correct Answer:- Option-B

Question45:-Scribers are made of

A:-Cast iron

B:-Mild steel

C:-High carbon steel

D:-Brass

Correct Answer:- Option-C

Question46:-The part of the step where a passenger stands on escalator.

A:-Step tread

B:-Riser

C:-Skirt

D:-Truss

Correct Answer:- Option-A

Question47:-The point angle of the drill depends on the.

A:-RPM of drill

B:-Size of drill

C:-Size of the machine

D:-Material of work

Correct Answer:- Option-D

Question48:-File card is used for

A:-Cleaning the work piece

B:-Renew the file teeth

C:-Cleaning the file teeth

D:-Cleaning the chips

Correct Answer:- Option-C

Question49:-Mechanical device attached to the car frame or counter weight to stop and hold in the event of free fall

A:-Retiring cam

B:-Safety gear

C:-Over head pulley

D:-Buffer

Correct Answer:- Option-B

Question50:-Which device is used to mount the pulley on shaft?

A:-Key

B:-Belt

C:-Chain

D:-Flange

Correct Answer:- Option-A

Question51:-In terms of energy bands, semiconductors can be defined as those material which at room temperature have

A:-Partially filled conduction band

B:-Partially filled valance band

C:-A very narrow energy gap

D:-All of the above

Correct Answer:- Option-D

Question52:-In an N type semiconductor there are

A:-No minority carriers

B:-Immobile negative ions

C:-Immobile positive ions

D:-holes as majority carriers

Correct Answer:- Option-C

Question53:-A square wave oscillator is

A:-Bistable multivibrator

B:-An Astable multivibrator

C:-A Monostable multivibrator

D:-None of the above

Correct Answer:- Option-B

Question54:-In a transistor the reverse saturation current I_{CO}

A:-Doubles for every 10°C rise in temperature

B:-Doubles for every 1°C rise in temperature

C:-Increase linearly with temperature

D:-Doubles for every 15°C rise in temperature

Correct Answer:- Option-A

Question55:-An SCR can be turned OFF by

A:-Removing the gate voltage

B:-Reducing the Anode to Cathode voltage

C:-Reducing the Anode current below the holding current

D:-All of the above

Correct Answer:- Option-C

Question56:-DIAC is a

A:-One terminal device

B:-Two terminal device

C:-Three terminal device

D:-Four terminal device

Correct Answer:- Option-B

Question57:-Which one of the following is not a characteristics of the UJT

A:-Negative resistance

B:-Intrinsic stand off ratio

C:-Gate current

D:-Peak point voltage

Correct Answer:- Option-C

Question58:-A TRIAC can be triggered

A:-Only by the positive half cycle of the supply

B:-Only by the negative half cycle of the supply

C:-By positive & negative cycle of the supply

D:-None of the above

Correct Answer:- Option-C

Question59:-The procedure used for controlling the speed of a 3 phase induction motor is

A:-Fixed voltage -variable frequency method

B:-variable voltage -fixed frequency method

C:-variable voltage -variable frequency method

D:-Fixed voltage -fixed frequency method

Correct Answer:- Option-C

Question60:-The purpose of the synchronizing control in a CRO is to

A:-Focus the spot on screen

B:-Adjust the amplitude of the display

C:-Control the intensity of spot

D:-Lock the display of the signal

Correct Answer:- Option-D

Question61:-Which is the necessary condition for generating sinusoidal voltage in a feedback type oscillator

A:-Total loop gain should be one

B:-Total phase shift should be 360° or 0°

C:-Either A or B

D:-Both A and B

Correct Answer:- Option-D

Question62:-The largest number that can be represented by 'n' bits is

A:- $2^{(n)} - 1$

B:- $2^{(n)}$

C:- $2^{(n-1)}$

D:- $2^{(n+1)}$

Correct Answer:- Option-A

Question63:-The binary equivalent of the Hexadecimal number $(18)_{16}$ is

A:-00010010b

B:-00010011b

C:-10000010b

D:-00011000b

Correct Answer:- Option-D

Question64:-The output of a logic gate is "1" when all its inputs are at logic "0", the gate is

A:-A NOR or an EX-OR gate

B:-A NAND or OR gate

C:-An AND or an EX-NOR gate

D:-None of above

Correct Answer:- Option-D

Question65:-If a mod 9 counter is constructed using 4 flip flops the counter will skip

A:-7 Counts

B:-8 Counts

C:-9 Counts

D:-none of the above

Correct Answer:- Option-A

Question66:-The two input OR gate is

A:-7400

B:-7483

C:-7432

D:-7423

Correct Answer:- Option-C

Question67:-Which of the following statement about RAM is not correct

A:-It stands for Random Access Memory

B:-It is R/W memory

C:-It is volatile memory

D:-The data's are entered or stored in the chip during manufacturing

Correct Answer:- Option-D

Question68:-The PIV of diode in a half wave rectifier circuit with shunt capacitor filter is

A:-2Vm

B:-Vm

C:-Vm/2

D:-3Vm

Correct Answer:- Option-A

Question69:-The number of comparators required in a 3 bit comparator type ADC is

A:-6

B:-7

C:-3

D:-8

Correct Answer:- Option-B

Question70:-The rotor of a stepper motor has no

A:-Windings

B:-Commutator

C:-Brushes

D:-All of these

Correct Answer:- Option-D

Question71:-Which method of speed control cannot be used in a permanent magnet dc motor

A:-Armature voltage variation

B:-Armature resistance control

C:-Varying the field current

D:-All of the above

Correct Answer:- Option-C

Question72:-Which test on a transformer provides information about regulation, efficiency and heading under load conditions.

A:-open circuit test

B:-short circuit test

C:-Hopkinsons test

D:-back to back test

Correct Answer:- Option-D

Question73:-In a transformer the resistance between primary and secondary must be

A:-zero

B:-1 kΩ

C:-100 kΩ

D:-infinite

Correct Answer:- Option-D

Question74:-V curves for a synchronous motor represent relation between

A:-field current and speed

B:-field current and power factor

C:-Armature current & field current

D:-Power factor and speed

Correct Answer:- Option-C

Question75:-An induction motor is expected to take largest starting current under which method of starting

A:-Direct online starting

B:-Starter-rotor starting

C:-star-delta starting

D:-Auto-transformer starting

Correct Answer:- Option-A

Question76:-The starting capacitor of a single phase motor is

A:-Electrolytic capacitor

B:-Ceramic capacitor

C:-Paper capacitor

D:-none of these

Correct Answer:- Option-A

Question77:-An elevator drive is required to operate in

A:-One quadrant only

B:-Two quadrant only

C:-Three quadrants only

D:-Four quadrants only

Correct Answer:- Option-D

Question78:-An ideal insulating material should have low

- A:-insulation resistance
- B:-dielectric strength
- C:-dielectric loss angle
- D:-mechanical strength

Correct Answer:- Option-C

Question79:-Two wire A and B of the same material and length l and $2l$ have radius r and $2r$ respectively, the ratio of their specific resistance will be

- A:-1:1
- B:-1:2
- C:-1:4
- D:-1:8

Correct Answer:- Option-A

Question80:-Across the surface of a charged conductor, the electric

- A:-the field is continuous
- B:-potential is discontinuous
- C:-field is discontinuous
- D:-none of the above

Correct Answer:- Option-C

Question81:-In magnetic circuits, an air gap is usually inserted so as to

- A:-increase in mmf
- B:-prevent saturation
- C:-increase in flux
- D:-the increase in inductance

Correct Answer:- Option-B

Question82:-An Electromagnetic field is radiated from a

- A:-stationary point charge
- B:-a capacitor with the DC voltage
- C:-a conductor carrying in a DC current
- D:-an oscillating dipole

Correct Answer:- Option-D

Question83:-In a series RLC circuit, the maximum voltage across the capacitor occurs at a frequency

- A:-double the resonant frequency
- B:-below the resonant frequency
- C:-1.414 times the resonant frequency
- D:-equal to resonant frequency

Correct Answer:- Option-B

Question84:-Wave winding is employed in a DC Machine of

- A:-high current and low voltage rating
- B:-low current and high voltage rating
- C:-high current and high voltage rating
- D:-low current and voltage rating

Correct Answer:- Option-B

Question85:-The flux in transformer core

- A:-increases with load
- B:-decreases with load
- C:-remains constant irrespective of Load
- D:-none of the above

Correct Answer:- Option-C

Question86:-In cylindrical Rotor portion of the rotor is wound

- A:-one third
- B:-two third
- C:-one half
- D:-whole

Correct Answer:- Option-B

Question87:-Protection by fuses is generally not used beyond

- A:-200 A
- B:-50 A

C:-25 A

D:-10 A

Correct Answer:- Option-A

Question88:-Aluminium conductor cables can be joined by

A:-gas welding

B:-soldering

C:-compression

D:-thermite welding

Correct Answer:- Option-C

Question89:-Minimum distance of underground cable from the foundation of the building should be

A:-100 cm

B:-50 cm

C:-10 cm

D:-5 cm

Correct Answer:- Option-C

Question90:-Resolution of an instrument is

A:-the minimum quantity it can measure

B:-the maximum quantity that can measure

C:-the maximum non linearity

D:-ability to distinguish polarity

Correct Answer:- Option-A

Question91:-The response of a galvanometer is independent of its

A:-controlling torque

B:-number of turns

C:-circuit resistance

D:-none of these

Correct Answer:- Option-C

Question92:-A dynamometer type wattmeter response to the

A:-average value of active power

B:-average value of reactive power

C:-peak value of active power

D:-peak value of reactive power

Correct Answer:- Option-A

Question93:-Permission for addition/alteration in the lift installation is granted in

A:-Form F

B:-Form B

C:-Form D

D:-Form H

Correct Answer:- Option-B

Question94:-The licence for existing lift/escalator is issued in?

A:-Form F

B:-Form B

C:-Form D

D:-Form H

Correct Answer:- Option-A

Question95:-Motor used for elevators is generally

A:-synchronous motor

B:-induction motor

C:-capacitor start single phase motor

D:-any of the above

Correct Answer:- Option-B

Question96:-A synchronous motor is found to be more economical when the load is above

A:-1 kW

B:-10 kW

C:-20 kW

D:-100 kW

Correct Answer:- Option-D

Question97:-According to Indian Electricity rules, extra high voltage implies voltage exceeding.

A:-440 V

B:-650 V

C:-33 kV

D:-110kV

Correct Answer:- Option-C

Question98:-The first type of variable speed drive ever used on lifts was the so-called

A:-Two speed system

B:-Ward-Leonard system

C:-DC SCR

D:-VVVF

Correct Answer:- Option-B

Question99:-What type of elevator is used for low rise buildings where speed is not the main consideration?

A:-Gear-less traction elevator

B:-Geared elevator

C:-Hydraulic

D:-Deck elevator

Correct Answer:- Option-C

Question100:-Which motors are invariably used in lift systems to achieve good starting torques and enable good speed control using variable voltage systems

A:-synchronous motor

B:-Double cage rotor induction motors

C:-dc series motor

D:-dc compound motor

Correct Answer:- Option-B