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**Diploma Program in Electrical Engineering**  
**SEM: VI**  
**Course: Utilization of Electrical Energy**  
**Course code: DEE3202**

Id	Q.1
Question	The consideration involved in the selection of the type of electric drive for a particular application depends upon
A	Speed control range and its nature
B	Starting Nature
C	Environmental condition
D	All of the above
Id	Q.2
Question	Which of the following motor is preferred for automatic drives?
A	Ward Leonard controlled dc motors
B	Squirrel cage induction motor
C	Synchronous motors
D	Shunt Motor
Id	Q.3
Question	The consideration involved in the selection of the type of electric drive for the Load Variation application depends upon
A	Constant Load
B	Continuous Variable Load
C	Pulsating Load
D	All of the above
Id	Q.4
Question	_____ drive is also called as Line shaft drive
A	Individual drive
B	Multi motor drive
C	Group Drive
D	None of the above
Id	Q.5
Question	In _____ drive each machine is driven by its own separate motor with the help of gears and pulley
A	Individual drive
B	Multimotor drive
C	Group Drive
D	None of the above
Id	Q.6

Question	_____ duty cycle consist of frequent on load and off-load period.
A	Continuous Duty with constant Load
B	Continuous Duty With the variable load
C	Short Time duty
D	Intermittent duty
Id	Q.7
Question	Which duty cycle is preferred if the load requires a constant power for short period of time and rest for sufficient longer duration.?
A	Short Time duty
B	Intermittent duty
C	Intermittent duty with starting
D	Intermittent duty with starting and braking
Id	Q.8
Question	For an application which requires smooth and precise speed control over the wide range, the motor is preferred is
A	Squirrel cage Induction Motor
B	Synchronous Motor
C	DC motor
D	Wound Rotor Induction Motor
Id	Q.9
Question	In case of a 3 phase induction motor, plugging is done by:
A	Starting the motor on load which is more than the rated load
B	Pulling the motor directly on line without a starter
C	Interchanging connections of any two phases of the stator for quick stopping
D	Locking of the rotor due to harmonic
Id	Q.10
Question	The motor enclosure used for industrial purposes is
A	Protected type
B	Drip proof type
C	Totally enclosed type
D	Open type
Id	Q.11
Question	Ball-bearings are
A	Used up to 75 kW motors
B	Of long life and low friction loss
C	Costlier and noisy particularly at high speed motor
D	All of the above
Id	Q.12

Question	Sleeve bearings
A	Are normally of bronze
B	Have self lubricating properties
C	Are used where noise is to be avoided
D	All of the above
Id	Q.13
Question	The least expensive drive is
A	Belt drive
B	Rope drive
C	Chain drive
D	Any of the above
Id	Q.14
Question	The quantity of heat required to change the temperature of 1 gm of ice from $-6^{\circ}\text{C}$ to $-5^{\circ}\text{C}$ is known as
A	Latent heat of fusion
B	Temperature coefficient
C	Specific heat
D	Latent heat of vaporization
Id	Q.15
Question	A body at the temperature T K radiates heat in proportion to
A	$T^2$
B	$1/T^2$
C	$T^4$
D	$1/T^4$
Id	Q.16
Question	Which of the following is of high value in case of induction heating?
A	Voltage
B	Current
C	Frequency
D	All of the above
Id	Q.17
Question	Induction heating process is based on
A	Electro-magnetic induction principle
B	Resistance heating principle
C	Thermal ion release principle
D	Nucleate heating principle
Id	Q.18
Question	In case of induction hardening
A	Heating occurs uniformly in the part to be heated

B	Heating occurs in the core of the part to be heated
C	Heating occurs in the center of the part to be heated
D	Heating is more at the core and less on the surface of the part to be heated
Id	Q.19
Question	The method of heating used in an electric room heat convector is
A	Resistance heating
B	Induction heating
C	Dielectric heating
D	Arc heating
Id	Q.20
Question	Highest power factor can be expected in which method of heating?
A	Electric arc heating
B	Dielectric heating
C	Induction heating
D	Resistance heating
Id	Q.21
Question	Which of the following heating elements can give the highest temperature in resistance heating?
A	Copper
B	Nickel Copper
C	Nichrome
D	Silicon's carbide
Id	Q.22
Question	Nichrome wire can be safely used for heating up to
A	2000°C
B	1600°C
C	1450°C
D	1150°C
Id	Q.23
Question	If a furnace is to be heating to temperatures around 1500°C which of the following material for heating elements should be selected?
A	Eureka
B	Kanthal
C	Platinum molybdenum carbo compound
D	Nichrome
Id	Q.24
Question	Furnaces used for cremation use
A	Resistance heating
B	Induction heating

C	Dielectric heating
D	Arc heating
Id	Q.25
Question	Induction heating is possible
A	On ferrous material only
B	On magnetic material only
C	On dc supply only
D	On AC supply only
Id	Q.26
Question	A piece of steel is to be heated to a predetermined temperature. In which of the following furnace it will attend the desired temperature in the shortest possible time?
A	Oil fired furnace with the heat exchanger
B	Electric resistance furnace
C	Induction heating furnace
D	Electric arc furnace
Id	Q.27
Question	If the supply frequency is reduced from 50 Hz to 1 Hz, which of the following method of heating will be least affected
A	Resistance heating
B	Dielectric heating
C	Induction heating
D	None of above
Id	Q.28
Question	Which method of heating is likely to give leading power factor?
A	Electric arc heating
B	Induction heating
C	Dielectric heating
D	Resistance heating
Id	Q.29
Question	In dielectric heating, current flows through
A	Metallic conductor
B	Ionic discharge between dielectric medium and the metallic conductor
C	Dielectric
D	Air
Id	Q.30
Question	Mica is a:-
A	Insulating and dielectric material
B	Dielectric material but not an insulator

C	Insulating material but not dielectric
D	Magnetic Material
Id	Q.31
Question	For arc heating, the electrodes are made of
A	Copper
B	Aluminum
C	Graphite
D	ACSR conductor
Id	Q.32
Question	A freshly painted layer may be dried electronically by_____.
A	Emissive Heating
B	Induction Heating
C	Infrared heating
D	Convection heating
Id	Q.33
Question	In arc welding, the temperature of the arc is of the order of
A	100° C
B	1000° C
C	3500° C
D	35000° C
Id	Q.34
Question	In arc welding, the voltage on A.C supply system is in the range
A	1200 V
B	400-500 V
C	200-250 V
D	70-100V
Id	Q.35
Question	In arc welding by dc supply, the voltage required is
A	10 to 20 V
B	50 to 60 V
C	100 to 120 V
D	200 to 250 V
Id	Q.36
Question	A DC generator used for A.C welding should have
A	Rising characteristics
B	Dropping Characteristics
C	Straight characteristics
D	All of the above
Id	Q.37

Question	The Polarity of A.C welding sets is
A	Positive
B	Negative
C	No polarity
D	Infinite
Id	Q.38
Question	As the thickness of the part to be welded increases, which of the following parameter for ac welding should also increase?
A	Voltage
B	Current
C	Frequency
D	All of the above
Id	Q.39
Question	In "argon arc welding" the electrode is made of
A	Carbon
B	Steel
C	Tungsten
D	No electrode is needed
Id	Q.40
Question	In argon arc welding the purpose of using argon is
A	To prevent oxidation of metal by coming in contact with the oxygen of the air
B	To create an inert atmosphere around the job to be welded
C	To obviate the necessity for using flux
D	All of the above
Id	Q.41
Question	Steel rails are welded by
A	Resistance welding
B	Thermit Welding
C	Argon arc welding
D	Gas welding
Id	Q.42
Question	In gas welding the gases used are
A	Oxygen and nitrogen
B	Argon and Helium
C	Helium and carbon dioxide
D	Acetylene and oxygen
Id	Q.43
Question	Steel pipes are manufactured by

A	Arc welding
B	Thermit welding
C	Resistance welding
D	Argon arc welding
Id	Q.44
Question	Two 3 mm thick mild steel sheets are to be welded. The electrode of 18, 16, 3 and 10 Nos are available which one would you select?
A	No: 10
B	No: 3
C	No: 16
D	No: 18
Id	Q.45
Question	What is an example of plastic welding?
A	Gas Welding
B	Resistance welding
C	Thermit welding without pressure
D	None of these
Id	Q.46
Question	Gray iron is usually welded by
A	Arc welding
B	Gas welding
C	TIG welding
D	MIG welding
Id	Q.47
Question	In ultrasonic welding, the frequency range is generally
A	100 - 4000 cps
B	4000-20000 cps
C	20,000-40,000 cps
D	80,000-200,000 cps
Id	Q.48
Question	The advantages of welding motor generator is usually in the range of
A	Easily Portable
B	Used for ferrous and Non-ferrous material
C	Can be used for all welding position
D	Less maintenance
Id	Q.49
Question	For welding duty rectifier commonly used are
A	Mercury arc rectifier
B	Selenium metal rectifier



C	Any of the above
D	None of the above
Id	Q.50
Question	Which of the following is not a welding accessory?
A	Electrode holder
B	Work Clamp
C	Cable
D	Gloves
Id	Q.51
Question	Chipping hammers are used
A	To remove slag from welding
B	To align the pieces to be welded
C	For tace welding
D	For marking spots to be welded
Id	Q.52
Question	The welding electric circuit is
A	Always earthed
B	Never earthed
C	Through cables only
D	None of the above
Id	Q.53
Question	In resistance welding, the SCR contactor will close during
A	Squeeze time
B	Hold time
C	Weld time
D	Weld as well as of the time
Id	Q.54
Question	In a resistance welder, pneumatic pressure is applied during
A	Squeeze time
B	Weld time
C	Squeeze and weld time
D	Squeeze, weld and hold time
Id	Q.55
Question	TIG welding is
A	Temperature insulated Gas welding
B	Tungsten Inert gas welding
C	Thermally Induced gas welding
D	Thorium Iodine gas welding
Id	Q.56

Question	The electrode is not consumed in case of
A	DC arc welding
B	AC arc welding
C	Gas welding
D	TIG welding
Id	Q.57
Question	The flux used in TIG welding is
A	Ammonium Chloride
B	Borax
C	Ash
D	None
Id	Q.58
Question	Which method would you recommend for the welding of aluminum alloys?
A	DC arc welding
B	AC arc welding
C	Tungsten Welding
D	Acetylene oxygen gas welding
Id	Q.59
Question	With manual arc welding in mild steel, the metal deposition rate will be nearly
A	2 to 5 kg per hour
B	5 to 10 kg per hour
C	10 to 20 kg per hour
D	20 to 50 kg per hour
Id	Q.60
Question	Which of the following automatic welding process is likely to give the maximum rate of metal deposition?
A	Gas shielded bare wire
B	Submerged arc (single wire)
C	Multiple power submerged arc
D	Continuous flux covered electrode
Id	Q.61
Question	The load taken by a welding transformer is
A	Purely resistive
B	Non-inductive
C	Highly-Inductive
D	Highly- Capacitive
Id	Q.62

Question	The power factor of the load using the welding transformer is usually
A	Unity
B	Nearly unity lagging
C	Nearly unity leading
D	Very low of the order of 0.3 to 0.5 lagging
Id	Q.63
Question	For power factor correction of welding transformer, a capacitor is usually connected on
A	Primary side
B	Secondary side
C	Parallel to arcing electrodes
D	Parallel to mains
Id	Q.64
Question	MIG welding is
A	Mild steel inert gas welding
B	Medium inert gas welding
C	Maximum inner depth gas welding
D	Metal inert gas welding
Id	Q.65
Question	The type of electrode used in the seam welding is
A	Bare wire Rods
B	Roller electrodes
C	Heavily coated electrode
D	Lightly covered electrode
Id	Q.66
Question	Which of the following is not resistance welding?
A	Projection welding
B	MIG welding
C	Seam welding
D	Flash butt welding
Id	Q.67
Question	The advantages of resistance welding is
A	Less skill required
B	Reduced distortion
C	No need of filler material
D	All of the above
Id	Q.68
Question	The resistance of the arc
A	Decrease with an increase of the current

B	Increases with increases of the current
C	Does not depends on current
D	None of the above
Id	Q.69
Question	Flywheel decelerates during
A	Peak load period
B	Light load period
C	Normal work load
D	All of the above
Id	Q.70
Question	The cost of D.C motor for same size and rating as that of squirrel cage induction motor is
A	1.5 to 3 times
B	1.5 to 4 times
C	1.5 to 2.5 times
D	None of the above
Id	Q.71
Question	High frequency heating methods are
A	Dielectric heating
B	Induction heating
C	Arc heating
D	Resistance heating
Id	Q.72
Question	Temperature control of resistance furnace is carried out by:
A	By varying voltage
B	By varying resistance
C	By periodically switching ON and OFF the supply
D	All of the above
Id	Q.73
Question	In indirect arc furnace number of electrodes are restricted to
A	One
B	Two
C	Three
D	None of the above
Id	Q.74
Question	Advantages of Electric heating are
A	Non uniform heat
B	High efficiency of utilization
C	Cleanliness

D	All of the above
Id	Q.75
Question	Which one of the following is the type of transformer used in arc welding.
A	step down
B	step up
C	one to one
D	capable of increasing supply voltage
Id	Q.76
Question	In practice, regenerative braking is used when
A	quick motor reversal is required.
B	load has overhauling characteristics
C	controlling elevator and rolling mills.
D	other methods cannot be used
Id	Q.77
Question	In _____ drive each machine is driven by its own separate motor with the help of gears and pulley
A	Individual drive
B	Multimotor drive
C	Group Drive
D	None of the above
Id	Q.78
Question	When a D.C motor is driven from a rectifier _____ motor size is required for a given H.P requirement
A	Larger
B	Slightly larger
C	smaller
D	same
Id	Q.79
Question	Group drive cost is _____ as compared to individual drive.
A	more
B	equal
C	less
D	None of the above
Id	Q.80
Question	The application which requires load torque constant irrespective of the speed
A	blowers
B	fans

C	lathe
D	Crane
Id	Q.81
Question	The purpose of enclosure is
A	Protect persons against contact with live parts
B	Protect machines against ingress of solid foreign
C	Protect machines against ingress of water
D	All of the above
Id	Q.82
Question	Totally enclosed type of machines are cooled by
A	Natural cooling
B	Air forced cooling
C	Surface radiation
D	Oil cooling
Id	Q.83
Question	Advantages of Ball bearings are
A	Initial cost is low
B	Life is longer
C	Occupy less space
D	Both B & C
Id	Q.84
Question	Flat belt drive is advantageous as compared to V belt drive on account
A	Flexibility
B	Desired speed ratio
C	Less space
D	Both A & B
Id	Q.85
Question	Chain drive is _____ than belt and rope drive.
A	Less efficient
B	More efficient
C	Equally efficient
D	None of the above
Id	Q.86
Question	The noise of motor is due to
A	Bearings
B	Vibrations
C	Bad foundation
D	All of the above
Id	Q.87

Question	The highest starting torque motor is
A	D.C Shunt motor
B	D.C series motor
C	D.C Compound motor
D	Induction motor
Id	Q.88
Question	During plugging or reverse current breaking of D.C shunt motor
A	Connections of field winding are reversed
B	Connection of armature and field are reversed
C	Connections of armature terminals are reversed
D	Supply terminal s are reversed
Id	Q.89
Question	The Speed control by variation of field flux results in _____
A	Constant torque drive
B	zero speed
C	Variable torque drive
D	Variable power drive
Id	Q.90
Question	Calculate the heat absorbed by a 20 $\Omega$ resistor when 40 V is applied across it.
A	120 W
B	100 W
C	80 W
D	110 W
Id	Q.91
Question	What is Load Equalisation?
A	Process of smoothing the fluctuating load
B	Process of removing the load
C	Process of changing the voltage level
D	Process of changing the speed
Id	Q.92
Question	Which device is used to store the energy during load equalization?
A	Flywheel
B	Capacitor
C	Inductor
D	Resistor
Answer	Flywheel
Marks	2
Unit	1

Id	Q.93
Question	Overloading can be prevented using _____
A	Over-current protection
B	Speed protection
C	Over frequency protection
D	Oversize protection
d	Q.94
Question	Electric motors are placed in _____ to protect them from dust and contamination.
A	Enclosures
B	Open environment
C	Moisturizing environment
D	Hot environment
Id	Q.95
Question	To save energy during braking-----braking is used?
A	Dynamic
B	Plugging
C	regenerative
D	all of the above
Id	Q.96
Question	Which braking is not possible in series motor?
A	Regenerative braking.
B	Dynamic braking.
C	Counter current braking.
D	Rheostat braking.
Id	Q.97
Question	In industries which electrical braking is preferred?
A	Regenerative braking.
B	Plugging.
C	Dynamic braking.
D	None of the above.
Id	Q.98
Question	What type electric drive is used in cranes?
A	Multimotor.
B	Group.
C	Individual.
D	Both A and C.
Id	Q.99
Question	Polarity of supply voltage is reversed in which type of braking?



A	Regenerative braking.
B	Dynamic braking.
C	Plugging.
D	None of these.
Id	Q.100
Question	Which speed control method preferred for constant torque drive?
A	Field control.
B	Armature voltage control.
C	Mechanical loading system.
D	None of above.
Id	Q.101
Question	High braking torque produced in
A	plugging.
B	dynamic braking.
C	regenerative braking.
D	none of above.
Id	Q.102
Question	Which duty cycle has on load and off-loads period?
A	Intermittent duty
B	Short time duty
C	Continuous duty with constant load
D	Continuous duty with variable load
Id	Q.103
Question	Which motor is preferred for overhead traveling cranes?
A	Intermittent periodic motor
B	Continuous duty motor
C	Slow speed duty motor
D	Short time rated motor
Id	Q.104
Question	Which type of Induction motor is best for pole changing method?
A	SCIM
B	WRIM
C	Single-phase IM
D	Linear IM
Id	Q.105
Question	Ajax Wyatt furnace is started when
A	It is filled below core level
B	It is filled above core level
C	It is fully empty

D	None of the above
Id	Q.106
Question	Direct arc furnaces have which of the following power factors?
A	Unity
B	Low, lagging
C	Low, leading
D	Any of the above
Id	Q.107
Question	The temperature inside a furnace is usually measured by which of the following ?
A	Optical Pyrometer
B	Mercury thermometer
C	Alcohol thermometer
D	Any of the above
Id	Q.108
Question	For heating element high resistivity material is chosen to
A	Reduce the length of heating element
B	Increase the life of the heating element
C	Reduce the effect of oxidation
D	Producing large amount of heat
Id	Q.109
Question	The most modern method for food processing is
A	Eddy current heating.
B	Dielectric current.
C	Induction heating.
D	Resistance heating.
Id	Q.110
Question	In induction heating
A	magnetic materials can be easily treated in comparison to non-magnetic materials.
B	heat is produced due to current induced in the charge by electromagnetic action.
C	the resistance of charge must be low and voltage applied must be high in order to produce sufficient heat.
D	all of above.
Id	Q.111
Question	In induction heating, the depth up to which current will penetrate is proportional to
A	Frequency.

B	$(\text{Frequency})^2$ .
C	$1/\sqrt{\text{Frequency}}$ .
D	$1/\text{Frequency}$ .
Id	Q.112
Question	_____ is not an application of dielectric heat.
A	Diathermy.
B	Soldering.
C	Food processing.
D	Gluing of wood.
Id	Q.113
Question	Low frequency supply is necessary for direct core type induction furnaces because
A	With normal frequency supply the electromagnetic forces causes severe stirring action in the molten metal.
B	Magnetic coupling between the primary and secondary circuit is poor.
C	Both A and B.
D	None of the above.
Id	Q.114
Question	The dielectric loss in a dielectric is proportional to
A	Voltage impressed on the dielectric.
B	The square of the voltage impressed on the dielectric.
C	Square root of the voltage impressed on the dielectric.
D	None of above.
Id	Q.115
Question	For arc furnaces low voltage high current power supply is needed because
A	life of the roof refractory is increased.
B	maximum secondary voltage is limited to 275 V (line to line voltage open circuit voltage).
C	heavy current produces large amount of heat resulting in higher temperature.
D	All of above.
Id	Q.116
Question	The simplest and most common used method for temperature control is
A	change of connections of heating circuit .
B	use of variable number of heating elements.
C	transformer tapplings.
D	using external series resistance of heating elements.
Id	Q.117

Question	On increasing the thickness of the refractory wall of the furnace
A	temperature inside the furnace will drop.
B	temperature on the outer surface of furnace walls will drop.
C	energy consumption will increase.
D	heat loss through furnace walls will increase.
Id	Q.118
Question	The function(s) of an heating chamber is/are to
A	continue the atmosphere around the charge.
B	store as much of the heat supplied as may be practicable and economical.
C	control the cooling rate of the charge and control the distribution of heat within the chamber.
D	all of above.
Id	Q.119
Question	Resistance ovens are used for
A	drying of varnish coating, drying and baking of potteries.
B	domestic and commercial heating.
C	vulcanizing and hardening of synthetic material.
D	all of above.
Id	Q.120
Question	The arc furnace of conical shapes have the advantage(s) of
A	reduced radiation loss.
B	large surface area per unit bath volume.
C	low power consumption.
D	all of above.
Id	Q.121
Question	For power transformers employed for arc furnace, it is desirable to arrange the furnace and transformer in such a way that the leads are
A	longer in length and place close together.
B	shorter in length and placed close together .
C	shorter in length and placed distance apart.
D	In any arrangement.
Id	Q.122
Question	In submerged arc furnace the power is controlled by
A	Varying the voltage applied to the electrodes.
B	Varying the spacing between the electrodes.
C	Either A or B.
D	Varying the arc length.
Id	Q.123
Question	Which currents are used for inducing heat in the high frequency

	induction furnace?
A	Alternating primary currents
B	Direct primary currents
C	Alternating secondary currents
D	Direct secondary currents
Id	Q.124
Question	How much is the thermal efficiency of a coreless high frequency induction furnace?
A	50.00%
B	80%
C	70.00%
D	60.00%
Id	Q.125
Question	In high frequency induction furnace, time taken by charge to melt is long.
A	Above Statement is True
B	Above Statement is False
C	Can't Say
D	Above Statement is Partially True/Correct
Id	Q.126
Question	The temperature produced in indirect arc furnace is
A	More than in direct arc furnace
B	Less than direct arc furnace
C	Equal to direct arc furnace
D	None of these
Id	Q.127
Question	In indirect core type of furnace, the element is heated by induction, which transfer the heat to the charge by
A	Conduction
B	Radiation
C	Convection
D	All of these
Id	Q.128
Question	In direct core type induction furnaces, the leakage reactance of the magnetic circuit is
A	High and power factor is also high
B	Low and power factor is high
C	High and power factor is low
D	Low and power factor is also low
Id	Q.129

Question	In induction heating, the heat produced is
A	Directly proportional to the induced voltage and inversely proportional to the resistance
B	Inversely proportional to the induced voltage and directly proportional to the resistance
C	Directly proportional to the square of induced voltage and inversely proportional to the resistance
D	Inversely proportional to the square of induced voltage and directly proportional to the resistance
Id	Q.130
Question	The device necessarily used for automatic temperature control in a furnace is
A	thermostate
B	auto-transformer
C	thermocouple
D	any of the above
Id	Q.131
Question	The electrodes used for projection welding are
A	Flat and smaller in diameter
B	Flat and larger in diameter
C	Round and smaller in diameter
D	Round and larger in diameter
Id	Q.132
Question	Voltage required for butt welding is
A	2 to 8 V
B	8 to 15 V
C	15 to 22 V
D	22 to 30 V
Id	Q.133
Question	The heat required by the weld is produced due to the contact resistance between the two pieces and is
A	Directly proportional to the current
B	Directly proportional to the square of the current
C	Inversely proportional to the square of the current
D	Inversely proportional to the current
Id	Q.134
Question	The fusion welding is also known as
A	Plastic welding
B	Pressure welding

C	Non - pressure welding
D	None of these
Id	Q.135
Question	After welding, the welded parts retain which properties of the metal?
A	Melting point
B	Density
C	Thermal conductivity
D	All of these
Id	Q.136
Question	A digital timer in a resistance welding machines provides
A	Accurate timing
B	Identical welds
C	Synchronous operation
D	All of these
Id	Q.137
Question	Which of the following generators are used in arc welding
A	Shunt generators
B	Series Generator
C	Cumulative compound generators
D	Differential compound generators
Id	Q.138
Question	Which of the following statements are true for ultrasonic welding? 1. Productivity of ultrasonic welding is high 2. Thin pieces can be welded to thicker pieces by ultrasonic welding 3. Ultrasonic welds contain foreign inclusions 4. Post cleaning of welds is necessary in ultrasonic welding 5. Preparation required for ultrasonic welding process is very little
A	(1), (2) and (4)
B	(2), (3) and (4)
C	(1), (3) and (5)
D	(1), (2) and (5)
Id	Q.139
Question	What is typically the frequency used in ultrasonic inspection?
A	0.1 MHz to 15 MHz
B	0.5 MHz to 13 MHz
C	1 MHz to 17 MHz
D	1.8 MHz to 19 MHz
Id	Q.140
Question	In which of the following materials, ultrasonic testing cannot be used?
A	Plastics

B	Ceramics
C	Non-ferrous objects
D	Ferrous object
Id	Q.141
Question	Laser beam welding is a _____ joining process.
A	fission
B	fusion
C	coherent
D	plastic
Id	Q.142
Question	Which of the following is used to direct laser beam?
A	glass apertures
B	perforated glass sheets
C	flat optical elements
D	electro-magnetic coils
Id	Q.143
Question	Which of the following is a commercially used laser?
A	Nd-GAG laser
B	1.06 $\mu\text{m}$ wavelength CO <sub>2</sub> laser
C	2 $\mu\text{m}$ wavelength CO <sub>2</sub> laser
D	Nd- YAS laser
Id	Q.144
Question	In solid state laser _____ is used as a dopant.
A	actinium ion
B	neodymium ion
C	platinum ion
D	lead ion
Id	Q.145
Question	Which of the following laser is the most efficient?
A	CO <sub>2</sub> lasers
B	Nd-YAG lasers
C	Ruby lasers
D	Dye lasers
Id	Q.146
Question	CO <sub>2</sub> lasers employs gas mixture of _____
A	nitrogen and helium
B	hydrogen and helium
C	argon and xenon
D	oxygen and nitrogen



Id	Q.147
Question	In electron beam machine, just after the cathode, there is/are _____
A	deflector coils
B	a magnetic lens
C	bias grid
D	port for vacuum gauge
Id	Q.148
Question	Electron is accelerated by _____
A	cathode cartridge
B	electromagnetic coils
C	aperture
D	annular anode
Id	Q.149
Question	_____ determines the mode of an electron beam.
A	Applied voltage
B	Operating pressure
C	Position of magnetic lens
D	The nature of biasing
Id	Q.150
Question	After the anode, the electron beam passes through _____
A	cathode cartridge
B	deflector coils
C	bias grid
D	a series of lenses