101. The power input to a 6 pole, 3 phase, 50 Hz induction motor is 42 Kw, the speed is 970 rpm. The stator losses are 2kw. The rotor copper losses per phase are
1) 1200w 2) 800w 3) 400w 4) 200w

102. A 40 KVA, 3300/240V, 50 Hz single phase transformer has 660 turns on the primary. The number of turns on Secondary are
1) 48 2) 120 3) 240 4) 480

103. A 4 pole long shunt compound generator supplies a load of 100 A at a terminal Voltage of 400v. the generated end of the machine if the resistance of armature is 0.02 Ω, the resistance of series field is 0.04Ω and shunt field is 200 Ω is
1) 400v 2) 406v 3) 406.12v 4) 402.04v

104. The current through the 2.5Ω resistor shown in the figure below is
1) 4A
2) 2A
3)3A
4)1A

105. The equivalent resistance between X and Y terminals in the circuit is
1) 2Ω
2) 1Ω
3)1.8Ω
4) 3.54Ω

106. In series R.L.C circuit, R=100Ω, X_L = 300Ω, Xc=200Ω the phase angle ϕ of the cut is _____ degrees 1) 60^0 2) 90^0 3) 45^0 4) 30^0

107. An RLC cut has a resonant frequency of 160khz and Q factor of 100. Its band width is
1) 1.6 khz 2) 160khz 3) 180khz 4) 100hz

108. In an RLC circuit V(t)= 20 sin (314(t)+5π/6) and i(t)= 10sin (314t +2π/3), the P.F. of the circuit is 1) 0.5 lead 2) 0.5 lag 3)0.866 lag 4)0.866 lead

109. For an A.C ckt, the Voltage and current values are as follows.
V(t)=100 √2 sin (314 t + 120^0)
i(t) = 5sin (314t+60^0) find the power consumed by the load
1) 125√2 watts 2) 125/√2 watts 3) 250√2 watts 4) 20√2 watts

110. Three resistance are connected in delta. Their values are 20Ω, 30Ω and 50Ω. The resistance elements in the equivalent star network are
1) 18Ω, 72Ω, 36Ω 2) 10Ω, 5Ω,1Ω 3) 10Ω, 6Ω, 15Ω 4)6Ω, 12Ω, 18Ω

111. The Equivalent resistance between the terminals X and Y in the ckt shown below is R_1=6Ω; R_2=1Ω
1) 4/3Ω
2) 6Ω
3)3Ω
4) 3/4Ω

112. For the Ckt shown the total induction b/n the terminals T1 and T2 will be
1) 400mH
2) 0 mH
3)200mH
4) 100mH

113. The turn off time of SCR will be of the order of
1) 1μsec 2) 2 milli seconds 3) 50 μ secs 4) 1 sec

114. When the SCR is switched on the resulting anode current should be:
1) greater than holding current 2) greater than latching current
3) greater than zero 4) lower than latching current

115. DC Motor braking is possible with
1) half controlled bridge rectifier 2) full controlled bridge rectifier with free wheeling diode
3) full controlled bridge rectifier 4) half controlled bridge rectifier with free wheeling diode

116. Transistors are preferred in inverters because of
1) high frequency operation 2) non connection circuits
3) high efficiency 4) all of the above

117. In a 3-phase six pulse rectifier, the ripple frequency is
1) 3 times the supply frequency 2) times the supply frequency
3) six times the supply frequency 4) none of these

118. In UJT, intrinsic stand off ratio is typically
1) 0.2 2) 0.4 3) 0.7 4) 0.99
119. SCR uses 1) No gate 2) two gates 3) one gate on the p-layer near to cathode
4) One gate on the n-layer next to anode
120. In a three phase half wave rectifier, each diode conducts for
1) 180^0 2) 120^0 3) 60^0 4) 360^0
121. The output Voltage an inverter is controlled by
1) PWM 2) regulation of supply
3) reversal inverters in buck boost mode 4) all of them
122. In DC Motor speed control, faster response is from
1) field control 2) armature control 3) breaking control 4)all of them
123. In a thyristor di/dt protection is achieved through the use of
1) R is series with thyristor 2) L is series with thryistor
3) C in series with thyristor 4) all of the above
124. It 'L' is the angle and Vm sin wt is the input to a half wave phase controlled rectifier then Vo=
1) $\frac{V_m}{\pi}(1+\cos\alpha)$ 2) $\frac{2V_m}{\pi}(1+\cos\alpha)$ 3) $\frac{V_m}{2\pi}(1+\cos\alpha)$ 4) $\frac{2V_m}{\pi}\cos\alpha$
125. A dual converter is a device that
1) converts AC to DC 2) converts DC to AC
3) converts AC from one frequency level to another frequency levels 4) none
126. A free wheeling diode is connected across an inductive load is
1) to restore conduction angle on phase 2) to avoid negative reversal voltage drop
3) to reduce the P.V 4) all the above
127. The diac will have 1) identical forward and reverse characteristics
2) forward break down voltage is less then reverse break down voltage
3) reverse break down voltage is less then forward break down voltage
4) very high forward break down voltage
128. To use photo diode as a transducer
1) reverse bias the p-n junction 2) forward bias the p-n junction
3) increase the temperature of the junction 4) none of these
129. Proximity switch is
1) input device 2) output device 3) control device 4) none of these
130. The method of rotor voltage control of an induction motor is
1) inefficient 2) more efficient than static kramar drive
3) more efficient then static sher bius drive 4) none
131. Natural commutations can be used in
1) DC circuits only 2) AC circuits only 3) both AC and DC circuits 4) none
132. The number of leads in a DIAC are 1) 2 2) 3 3) 4 4) 6
133. The duty cycle of a stop down chopper is
1) $\frac{T_{on}}{T_{on}+T_{off}}$ 2) $\frac{T_{off}}{T_{on}+T_{off}}$ 3) $\frac{T_{on}+T_{off}}{T_{on}}$ 4) $\frac{T_{on}+T_{off}}{T_{off}}$
134. A silicon controlled switch has
1) 2 leads 2) 3 leads 3) 4 leads 4) 5 leads
135. By connecting a diode across SCR in anti parallel
1) increases turn on time 2) decrease turn on time
3) increase turn off time 4) decreases turn off time
136. _____ does not have negative resistance characteristics
1) FET 2) UJT 3) SCR 4) tunnel diode
137. In a PNPN diode at break over
1) current suddenly increases 2) current suddenly decreases
3) voltage suddenly increases 4) current suddenly changes direction
138. To make P type semiconductor material the following material can be added
1) Arsenic 2) Antimony 3) Phosphorus 4) Boron
139. In the given circuit if diode $V\gamma=0.7$, $R_f=100\Omega$ then the amount of current in the circuit is
1) 1.1 mA
2) 1 mA
3) 9.3 mA
4) 10 mA
140. For ideal rectifiers the value of ripple factor is 1) zero 2) ∞ 3) 1 4) none
141. The variation of base width in accordance with collector potential is called
1) reach through effect 2) punch through effect 3) early effect 4) none
142. In zener regulator if load resistance decreases the zener current
1) increases 2) decreases 3) either 1 or 2 4) none
143. Which configuration provide high input impedance low output impedance
1) CE 2) CB 3) CC 4) none
144. JFET is a _____ device 1) unipolar current controlled 2) bipolar voltage controlled
3) unipolar voltage controlled 4) bipolar current controlled

145. The phase difference between output and I/P of common source configuration is
1) 0^0 2) 180^0 3) 360^0 4) none
146. In class C amplifier the collector current will flow for
1) less than 180^0 2) 180^0 3) between 360^0 4) 360^0
147. The maximum efficiency of a half wave rectifier is
1) 33.33% 2) 40.6% 3) 50% 4) 68%
148. The ripple factor of a full wave rectifier is
1) the same as that of half wave rectifier 2) higher than that of half wave rectifier
3)less than half the ripple factor of a half wave rectifier
4) more than half the ripple factor of a half wave rectifier
149. Fermi energy is the amount of energy Which of the following
1) a valence electron can have at room temperature
2) must be gives to an electron to move it to conduction band
3) must be given to a hole to move if to valence band 4) a hole can have at room temperature
150. Zener diode is invariably used with
1) forward bias 2) reverse bias 3) either 1 and 2 above 4) zero bias
151. A double beam oscilloscope has
1) two screens 2) two electron guns 3) two different phosphor coatings
4) one wave form divided into two parts
152. Photo multiplier is based on the principle operation of
1) photo voltaic effect 2) photo conductive effect 3) secondary emission 4) thermopile effect
153. Ability to amplify weak signal is _____
1) selectivity 2) responsibility 3) sensitivity 4) fidelity
154. Improper biasing of a transistor circuit leas to
1) distortion in o/p signal 2) excessive heat production at collector terminal
3) faulty location of load line 4) heavy loading of emitter terminal
155. Negative feedback in an amplifier
1) increases the noise 2) decreases the B.W 3) decreases the harmonic distortion
4) increases the harmonic distortion
156. The circuit shown is
1) clamper (adds $+V_m$ level)
2) clamper (adds $-V_m$ level)
3) clamper (add 2 V_m level)
4) clipper
157. To improve voltage amplifier characteristics feedback amp, is used
1) voltage shunt 2) current series 3) current shunt 4) voltage series
158. A low pass RC circuit acts as integrator under the following condition
1) RC <<T 2) RC =T 3) RC >>T 4) none
159. 555 timer can be operated in
1) astable 2) monostable 3) bistable 4) either 1 or 2
160. During pass band the characteristic impedance of a filter is
1) purely real 2) imaginary 3) complex 4) none
161. LED is operated in _____ bias condition
1) forward 2) reverse 3) either 1 or 2 4) none
162. The minimum value of h_{fe} required by the transistor in RC phase shift oscillator is
1) 29 2) 3 3) 44.5 4) none
163. Lissajous pattern is a term associated with
1) VTVM 2) frequency meters 3) CRO 4) multimeters
164. Wide band amplifiers usually empoly RC coupling instead of transformer coupling because of
1) flatter frequency response for low frequency range
2) flatter frequency response for high frequency range
3) flatter frequency response over a wide frequency range 4) less phase distortion
165. Source follower is a negative feedback amplifier using
1) voltage feedback 2) current shunt feedback
3) current series feedback 4) voltage shunt feedback
166. The given circuit is
1) active low pass filter
2) band stop filter
3) band pass filter
4) active high pass filter
167. The circuit employed to obtain a square wave form from a saw tooth wave form is
1) monostable multivibrator 2) current time base generator
3) boot strap sweep circuit 4) none of these
168. After V_{DS} reaches pinch off value V_p in a JFET, drain current I_D becomes
1) zero 2) low 3) saturated 4) reversed
169. By passing a triangular wave through a differentiating circuit the output wave shape is
1) spikes 2) square wave 3) saw tooth 4) sine wave

170. What is the length of PC of 8085 μp
1) 8 bits 2) 4 bits 3) 16 bits 4) 32 bits
171. What is the addressing mode used in instruction LDA 0345H
1) direct 2) indirect 3) indiered 4) immediate
172. In interrupt service request have been received from all of the following interrupts, then which one will be serviced lost 1) RST 6.5 2) RST 5.5 3) RST 7.5 4) TRAP
173. Which of the following interrupt is un maskable interrupts
1) RST 5.5 2) RST 7.5 3) RST 7.5 4) TRAP
174. Number of bits needed to address 64K memory location is
1) 4 2) 8 3) 16 4) 24
175. No. of general purpose register in 8085 are
1) 3 2) 6 3) 8 4) 5
176. The RST5 interrupt have vector location
1) 002C 2) 0028 3) 0024 4) 002D
177. The instructions LDA and STA is case of 8085 are
1) 1 byte 2) 2 byte 3) 3 byte 4) none
178. DAA instruction will effects only after which instruction
1) SUB 2) ADD 3) CMA 4) STC
179. Decimal 238 in hexadecimal is 1) 5C 2) C5 3) EF 4) EE
180. Multiplexer has _____ inputs and _____ outputs
1) one, one 2) one, many 3) many, one 4) many, many
181. A hall effect transducer is used for measurement of a magnetic field of 1.5 wb/m^2 with a copper transducer for which the hall effect coefficient is -52×10^{-12} V-m/A wb-m^2. The thickness of the element is 2mm and the current passing is 5A find the voltage generated
1) –0.195 μV 2) –0.195 mV 3) –390 mV 4) -390×10^{-9}V
182. The resistance of a thermometer is 5Ω at 30^0C and 6.5Ω at 60^0C using linear approximation, the value of resistance temperature coefficient at 45^0C
1) 0.009/^{0}C 1) 0.0087/^{0}C 3) 0.0085/^{0}C 4) 0.01/^{0}C
183. A pressure of 256 KN/m^2 acting on a diaphragm produces a reflection of 0.2 mm at the centre what pressure would produce the same deflection if the diameter is 2 times the earlier one and the thickness is ½ of the earlier one
1) 2 KN/m^2 2) 1.28 KN/m^2 3) 64 KN/m^2 4) 0.5 KN/m^2
184. A pressure applied to a bellows element produces a linear displacement of 2mm. Suppose the number of bellows elements is made 3 times and thickness of the bellows element is halved, what would be the displacement of the element for the same applied pressure
1) 24 mm 2) 12 mm 3) 48 mm 4) 3 mm
185. In a thermopile element, heat energy transformed to the hot junction is converted into electrical energy by
1) Johnson's effect 2) Seebeck effect 3) Hall effect 4) Peltier effect
186. Calculate the ratio of vertical to horizontal frequencies for an oscilloscope which displays the following lissajious figure
1) 1 : 2
2) 2 : 3
3) 3 : 4
4) 1 : 8
187. One of the following can acts as an inverse transducer
1) electrical resistance potentiometer 2) L.V.D.T
3) capacitive transducer 4) piezo electric crystals
188. A diaphragm has a natural frequency of 30 KHz if both its diameters ad thickness are halved the natural frequency is 1) 15 KHz 2) 240 KHz 3) 60 KHz 4) 120 KHz
189. A Mcleod gauge of V_0=200 cm^3 and capillary cross sectional area a = 0.1 cm^2 indicates 1 cm of mercury. Express the pressure
1) 0.5×10^{-3} cm of Hz 2) 0.2×10^{-3} cm of Hz 3) 0.1×10^{-3} cm of Hz 4) 0.8×10^{-3} cm of Hz
190. A strip chart recorder is 1) an active transducer 2) an inverse transducer
3) an output transducer 4) 2 and 3
191. Which of the following instruments is a rate meter
1) venturimeter 2) hot wire anemometer 3) disk meter 4) current meter
192. The hot wire anemometer is used to measure
1) pressure in gases 2) liquid discharges 3) gas velocities 4) wind velocities at air parts
193. Process degree of freedom is defined by the following relation
1) $n=n_v - n_e$ 2) $n = n_v + n_e$ 3) $n = n_v - n_e - 2$ 4) $n = n_v + n_e - 2$
194. Unit for capacitance of thermal system
1) BTU/deg. 2) BTU/sec 3) deg-sec/BTU 4) none of these
195. The mode of controller action in which there is a continuous linear between values of the deviation and manipulated variable
1) proportional (p) 2) integral (I) 3) PI 4) PD
196. The steady state deviation in process is called as
1) offset 2) error 3) both 1 and 2 4) none

197. E/p converters are mainly used in
1) pneumatic actuators 2) electro pneumatic actuators
3) electric motor actuators 4) none of these

198. This figure represents

1) P-control 2) PI control 3) PD control 4) PID control

199. Basically PLC is
1) ON/OFF control 2) proportional control 3) PI control 4) none of these

200. A carrier is simultaneously modulated by a two sine waves with modulation indices of 0.3 and 0.4 respectively. What is the total modulation index.
1) 0.3 2) 0.4 3) 0.5 4) 1