Electronic Engineering

Topic: **Pre –ECET** **Max. Marks:**100

101. For Ge diodes the reverse saturation current increases at the rate of _____ % per ^{0}C
1) 7 2) 10 3) 100 4) 200
102. If ρ is the charge density, the hall coefficient R_H can be defined as
1) $R_H=\rho$ 2) $R_H=1/\rho$ 3) $R_H \rho$=mobility 4) $R_H \rho$=Conductivity
103. If the input and output resistances of an amplifier, increase with negative feedback, the resulting ckt should have _____ feedback
1) voltage series 2) current series 3) voltage shunt 4) current shunt
104. The feedback factor β at the frequency of oscillation of weins bride oscillator is
1) 1/29 2) 1/44.5 3) 1/3 4) 3
105. The maximum theatrical efficiency of class AB amplifier is
1) 78.5% 2) 50% 3) 75% 4) 25%
106. Inductor filter is used for
1) light loads 2) heavy loads 3) any load 4) medium loads
107. The configuration which has highest power gain is
1) CB 2) CC 3) CE 4) both 2 and 3
108. Which of the following is a voltage controlled current source
1) BJT 2) OP-amp 3) FET 4) none
109. The stability factor of a self bias circuit is
1) 1 + β 2) 1 3) < 1 + β 4) > 1 + β
110. The time period of an astable multivibrator is
1) 0.69 RC 2) 1.38 RC 3) RC 4) none
111. For an ideal op-amp CMRR value is
1) zero 2) 100 3) 10 4) infinite
112. The type of feedback used in boot strap ckt is
1) positive 2) negative 3) both 4) none
113. If the transmission error is 4 μs, then displacement error is
1) 8 μs 2) 12 μs 3) 6 μs 4) 16 μs
114. In a cascaded amplifier
1) noise decreases 2) gain increases 3) B.N increases 4) all the above
115. Which of the following is used as a voltage to frequency converter
1) astable multi 2) bistable multi 3) monostable multi 4) schmitt trigger
116. The Boolean equation for the sum of a full adder is
1) A + B + C 2) AB + BC + CA 3) A ⊕ B ⊕ C 4) A ⊕ B + C
117. Which of the following logic gates is similar to the function of two series switches
1) AND 2) OR 3) NAND 4) NOT
118. The maximum positive and negative numbers which can be represented in two's complement form using n bits respectively are
1) + $(2^{n-1}-1)$, $-(2^{n-1}-1)$ 2) + (2^n-1), -2^{n-1} 3) + 2^{n-1} ,-2^{n-1} 4) + 2^{n-1}, $-(2^{n-1}+1)$
119. In a 12 bit D/A converter which uses a binary ladder with +10V as the full scale o/p, the resolution is
1) 1.22 mV 2) 2.44 mV 3) 4.42 mV 4) 3.6 mV
120. The logic family that consumes minimum power is
1) TTL 2) ECL 3) N-MOS 4) CMOS
121. The value of 2^5 in octal system
1) 4000 2) 100 3) 40 4) 20
122. In J-K F/F, when J=K=1 and clock is applied the o/p Q will
1) become 0 2) become 1 3) Be complement of the o/p Q 4) not change
123. A + A + A + A ..... + A in bollean algebra is
1) nA 2) A^n 3) A 4) 5A
124. Memory unit which uses only combinational logic gates
1) ROM 2) RAM 3) core 4) disc

125. A shif register consists of _____ type flip flops in cascade
1) D only 2) JK only 3) T 4) D or JK

126. Photo multipliers are based on the principle of
1) photo voltaic effecti 2) seeback effect 3) thermionic emission 4) secondary emission

127. A strain gauge wire parameters of 10 cm length and 120 ohm resistance are increased by 0.1 ohm and 0.21 ohm respectively, on application of force. Its gauge factor is
1) 17.5 2) 1.75 3) 0.75 4) 0.175

128. In a 6-phase half wave rectifier, each rectifier conducts for _____ of the cycle
1) 30^0 2) 60^0 3) 15^0 4) 45^0

129. For 555 IC to function as a timer, it should be used in
1) astable mode 2) monostable mode 3) bistable mode 4) none

130. Magnetic amplifiers are mainly used as
1) power amplifiers 2) voltage amplifiers 3) current amplifiers 4) feedback amplifiers

131. For surface hardening of steel which heating process is preferred
1) resistance heating 2) infra red heating 3) induction heating 4) arc heating

132. An inverter is device which converts
1) dc to ac 2) ac to dc 3) ac to ac of different frequency 4) none

133. Which of the following requires more power for its operation
1) LED 2) LCD 3) photo diode 4) photo transistor

134. Triac is a
1) two terminal unidirectional switch 2) three terminal-bidirectional
3) two terminal – bidirectional 4)three terminal – unidirectional

135. The telegraphic speeds are expressed in
1) bauds/sec 2) bauds 3) erlangs 4) erlangs/sec

136. PPM signals can be readily generated from PWM signals, by using a _____ circuit
1) differentiator 2) integrator 3) monostable multi 4) schmitt trigger

137. The main disadvantage of a CW radar is
1) no range measurement 2) blind speeds
3) no doppler measurements 4) clutter elimination

138. The intrinsic impedance of free space is
1) 75Ω 2) 100Ω 3) 377Ω 4) 520Ω

139. A commercial super heterodyne FM radio receiver has its intermediate frequency chosen as
1) 455 KHz 2) 1655 KHz 3) 900 KHz 4) 10.7 MHz

140. The duration of sunspot cycle is
1) 2 years 2) 8 years 3) 11 years 4) 50 years

141. The velocity of electromagnetic waves in free space is given by
1) $\sqrt{\mu_0 / \in_0}$ 2) $\sqrt{\mu_0 \in_0}$ 3) $\frac{1}{\sqrt{\mu_0 \in_0}}$ 4) $\frac{1}{\mu_0 \in_0}$

142. The envelope of an amplitude modulated signal exhibits raplica of the
1) information signal 2) carrier wave 3) upper side frequency 4) lower side frequency

143. Commercial FM broad cast is in the frequency range
1) 88 – 108 MHz 2) 450 – 1650 KHz 3) 86 – 106 MHz 4) none

144. The antenna used to feed wave guides is
1) Helical 2) loop 3) log periodic 4) Horn

145. Nyquist rate of signal in samples/sec is
1) f_{max} 2) $2f_{max}$ 3) $1/f_{max}$ 3) $\frac{1}{2f_{max}}$

146. As compared to DSB-FC, 100% modulated transmission power saving on SSB-SC system is
1) 94.4% 2) 50% 3) 100% 4) 83.3%

147. Teleprinter code is
1) 1 ½ unit code 2) 5 unit code 3) 3 ½ unit code 4) 5 unit code with start and stop bits

148. Noise distribution in FM is
1) triangle 2) rectangle 3) depends on modulation index 4) depends on BW

149. Ideal value of noise figure is
1) 1 2) 0dB 3) both 1 and 2 4) none

150. Quantisation noise occurs in
1) PCM 2) TDM 3) FM 4) PWM

151. In communication system, noise is most likely to effect the signal in the
1) transmitter 2) receiver 3) channel near to transmitter
4) channel near to receiver
152. De emphasis of the signal is done
1) before modulation 2) after modulaton 3) after detection 4) before detection
153. Satellite sends back signals to earth by means of
1) Yagi antenna 2) chicken mesh antenna 3)horn antenna 4) dipole antenna

154. Sky wave propagation is used for
1) HF 2) VHF 3) MF 4) UHF
155. The type of filters used in SSB generation are
1) crystal 2) mechanical 3) hartley 4) colpitts
156. The balanced modulator eliminates the
1) carrier 2) USB 3) LSB 4) base band signal
157. A carrier is simultaneously modulated by two sine waves with two modulation indices 0.3, 0.4. The resultant modulation index is
1) 1 2) 0.12 3) 0.5 4) 0.7
158. In simplex telegraph working
1) two signals can be transmitted 2) two signals can be received
3) a signal can be either sent (or) received at a time
4) two signals can be simultaneously transmitted and received
159. The BW requirement of a telephone channel is
1) 3 KHz 2) 5 KHz 3) 10 KHz 4) 15 KHz
160. The most modern telephone exchange system is
1) strowger system 2) cross bar system 3) electronic system 4) none of these
161. The clock and crystal frequencies of 8085 processor are, respectively
1) 3.07 MHz, 6.14 MHz 2) 6.14 MHz, 6.14 MHz
3) 6.14 MHz, 3.07 MHz 4) 3.07 MHz, 3.07 MHz
162. Absolute mode addressing of 8085 is also known as _____ mode
1) register addressing 2) direct addressing
3) indirect addressing 4) immediate addressing
163. In 8085 instruction set, LDA is the OP code of a _____ byte instruction, having ____ T states
1) 3, 7 2) 2, 7 3) 3, 16 4) 3, 13
164. In 8085, the highest priority interrupt and the non-maskable interrupt are, respectively
1) TRAP, RST, 7.5 2) INTR, TRAP 3) TRAP, TRAP 4) TRAP, INTR
165. The number of address lines used in peripheral I/O and memory mapped I/O are, respectively
1) 8, 16 2) 16, 16 3) 16, 8 4) 8, 8
166. The no. of T-states required for opcode fetch in 8085 μp
1) 4 2) 3 3) 6 4) 5
167. Interaction between CPU and a peripheral device during on i/p operation is known as
1) hand shaking 2) flagging 3) relocation 4) subroutine
168. A stack is always operated as
1) LIFO 2) FOFO 3) FILO 4) any of the above
169. A flag bits in MPU provide
1) status type information 2) repeatability 3) rechecks 4) all of them
170. 8085 μp has _____ software restarts and _____ hardware restarts
1) 10, 5 2) 8, 4 3) 8, 5 4) 6, 6
171. In CCIR-B system for monochrome TV (used in India) the video signal modulation is
1) AM, negative 2) AM, positive 3) FM 4) SSB
172. The principle used in image orthicon is _____
1) photo voltaic 2) photo emissive 3) photo conductive 4) pin diode
173. As per CCIR-B standards the value of picture IF is
1) 38.4 MHz 2) 39.8 MHz 3) 34.3 MHz 4) 33.4 MHz
174. In order to eliminate ghosts in TV picture
1) use longer transmission lines 2) connect a booster
3) use different data 4) change antenna orientation
175. The antenna used for television transmission is
1) Yagi-uda 2) turnstile 3) parabolic 4) helical

176. The color sub carrier frequency in european system is
1) 3.57 MHz 2) 4.43 MHz 3) 4.57 MHz 4) 3.45 MHz

177. The channel width in CCIR-B system is
1) 33.4 MHz 2) 7 MHz 3) 6 MHz 4) 38.9 MHz

178. The color TV system adopted in India is
1) PAL 2) SECAM 3) NTSC 4) FCC

179. On TV picture tube, electron beam is _____ deflected
1) electronstatically 2) electromagnetically 3) magnetostatically 4) both 1 and 3

180. The time constant for preemphasis in TV is
1) 70 μs 2) 75 μs 3) 50 μs 4) 55 μs

181. A CRO has typical impedance of
1) 1 MΩ 2) 1 kΩ 3) 100Ω 4) 10kΩ

182. The Q-meter works on the principle of
1) series resonance circuit 2) parallel resonance
3) mutual inductance 4) self inductance

183. The instruments used to measure very low resistance is
1) Megger 2) PMMC 3) Kelvin's double bridge 4) Scharing bridge

184. The digital multimeter has a 4 ½ digit display the maximum reading is
1) 0999 2) 09999 3) 19999 4) 99999

185. Wein bridge is usually used for
1) resistance 2) capacitance 3) frequency 4) none

186. When 90^0 phase shift is present between two inputs the lissajeous pattern would be
1) Ellipse 2) circle 3) straight line 4) figure of eight

187. The units for deflection sensitivity of CRO is
1) volt/m 2) Ω/volt 3) m/volt 4) A/m

188. The network is said to be symmetrical if
1) $Z_{12} = Z_{21}$ 2) $Y_{12} = Y_{21}$ 3) $\Delta h=1$ 4)AD – BC =1

189. Power factor of a pure inductor is
1) 1 2) 0 3) 0.5 4) 0.8

190. Kirchoff's laws fails in the case of
1) ac circuits 2) dc circuits
3) lumped parameter network 4) distributed parameter network

191. When square wave is given to differentiator, o/p is
1) square wave 2) sine wave 3) sawtooth wave 4) spikes

192. If load impedance is 100Ω and Z_0 is 50Ω VSWR of the line is
1) ½ 2) 2 3) 5 4) 5000

193. For a loss less transmission line characteristic impedances is
1) $\frac{1}{\sqrt{LC}}$ 2) $\sqrt{L/C}$ 3) $\sqrt{C/L}$ 4) $\sqrt{LC}$

194. In band pass filter, the series element
1) capacitance 2) inductance 3) parallel combination of L.C
4) series combination of L&C

195. If Z_1 is series impedance, Z_2 is shunt impedance, for pass band
1) $-1<\frac{Z_1}{4Z_2}<0$ 2) $0<\frac{Z_1}{4Z_2}<1$ 3) $-1<\frac{Z_1}{4Z_2}<1$ 4) $+1<\frac{Z_1}{4Z_2}<-1$

196. In m-derived high pass T or π section filters, value of m-equals
1) $\sqrt{1-\left(\frac{f_\infty}{f_c}\right)}$ 2) $\sqrt{1-\left(\frac{f_\infty}{f_c}\right)^2}$ 3) $\sqrt{1-\left(\frac{f_\infty}{f_c}\right)^3}$ 4) $\sqrt{1-\left(\frac{f_\infty}{f_c}\right)^{1/2}}$

197. A series RLC circuit resonates at 2 MHz and has a Q of 100 at resonance its 3dB BW is
1) 10 KHz 2) 20 KHz 3) 10/√2 KHz 4) 20√2 KHz

198. Which of the following is not an output device
1) plotter 2) projector 3) printer 4) joystick

199. The speed of printer can be measured in
1) CPS 2) L PS 3) PPS 4) WPS

200. In dBASE, ZAP command implies

1) deletion of marked files
2) deletion of marked records
3) permanent deletion of all records
4) recalling the records deleted