

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

101. Which of the following material has least specific Resistance
1) copper 2) silver 3) aluminum 4) iron
102. The equivalent resistance of the network is
1) 200Ω
2) 400Ω
3) 600Ω
4) 1600Ω
103. The insulation resistance of a cable is given by
1) $\frac{2.3 \rho}{2\pi l} \log(r_2 / r_1)$ 2) $\frac{\rho}{2\pi l} \log\left(\frac{r_2}{r_1}\right)$ 3) $\frac{\rho}{2\pi l} \log(r_1 / r_2)$ 4) none
104. A 200 AH battery is designed to deliver a continuous current flow of
1) 50A for 4 hours 2) 25A for 8 hours 3) 100A for 2 hours 4) 200A for 1 hour
105. In a series RLC circuit, if 'C' is increased, what happens to the resonant frequency
1) it increases 2) it decreases 3) it remains the same 4) it is zero
106. Electric lines of force and equipotential surfaces
1) constitute a parallel network 2) constitute a mutually perpendicular network
3) are not related to each other 4) are at angle of 45° to each other
107. A magnet is kept in air surrounded by an iron ring. The magnetic lines of force from the magnet will be
1) crowded in the ring 2) crowded in air 3) evenly distributed 4) none
108. The hysteresis cycle for the material of a transformer is
1) tall and narrow 2) tall and wide 3) short and narrow 4) short and wide
109. Which will draw least current
1) 40 w lamp 2) 40w tube light 3) 40w induction motor 4) 40w computer
110. Alternators are usually star wound because
1) both lighting and power circuits can be supplied without using transformers
2) Neutral wire is required 3) lesser turns/phase are required
4) higher insulation is needed
111. For the same peak value, Which of the following wave has the least mean value?
1) sine 2) square 3) triangular 4) half wave rectified sine wave
112. In which lamp will be brighter
1) tungsten 2) sodium discharge lamp 3) H – Lmap 4) None
113. In 2-watt meter method, the algebraic sum of the readings of two wattmeter's will indicate true power only if _____
1) the load is balanced 2) phase sequence remains unchanged
3) There is no source balance 4) neutral wire available does not carry any current
114. 'Creeping' in energy meters can be prevented by
1) using extra turns on the voltage coil 2) having two holes one opposite sides of the disc
3) using a stronger Brake magnet 4) by using steel laminations of high permeability
115. Which of the following is likely to have the largest resistance?
1) moving coil Galvanometer 2) voltmeter of range 10V
3) ammeter of range 1A 4) A copper wire of length 1m and 3mm diameter
116. If 2% of main current is to be passed through a moving coil Galvanometer of resistance G, the resistance of shunt required is
1) G/49 2) G/50 3) 49G 4) 50G
117. Two transformers of identical voltage but of different capacities are operating in parallel. For satisfactory load sharing
1) impedance must be equal 2) per unit impedance must be equal
3) per unit impedance and X/R ratio must be equal 4) impedance and X/R ratio must be equal
118. Which of the following transformers is smallest?
1) 1KVA, 50 Hz 2) 1 KVA, 200 Hz 3) 1 KVA, 400 Hz 4) 1 KVA, 600 Hz
119. In a 3φ transformer Δ-connected, one of the phase has burnt up, then it works with
1) zero output 2) rated output 3) 60% of its rated output
4) 86.6% of its rated output
120. Under operating conditions the secondary of CT is always short circuited because
1) it protects the primary ckt 2) it is safe to human beings
3) it avoids core saturation and HV induction 4) all the above

144. In a 3ϕ inductor motor, the electrical representation of the variable mechanical load is the resistance of
- 1) $R_2 = (S-1)$ 2) $R_2(1/S-1)$ 3) $R_2\left(1-\frac{1}{S}\right)$ 4) $R_2 = (1-S)$
145. When a synchronous motor is running at 'N_s' the damper winding produces
- 1) damping torque 2) eddy current torque 3) torque aiding the developed torque
4) no torque
146. For a fault at the terminals of a syn. Generator, the fault is maximum for a
- 1) 3ϕ fault 2) 3ϕ to ground fault 3) line to ground fault 4) line to line fault
147. If the fault current is 2000A, the relay setting is 50% and CT ratio is 400/5, the PSM is
- 1) 25A 2) 15A 3) 50A 4) 10A
148. Resistance switching is normally employed in
- 1) all CB 2) BOCB 3) MOCB 4) AB CB
149. The insulation resistance of a cable of length 10 km is $1M\Omega$. For a length of 100 km of the same cable the insulation resistance will be
- 1) $1M\Omega$ 2) $10M\Omega$ 3) $0.1M\Omega$ 4) $0.01M\Omega$
150. The surge impedance of a 400 km long, OH line is 400Ω . For 200km length of the same line, the surge impedance will be
- 1) 200Ω 2) 800Ω 3) 400Ω 4) 100Ω
151. In order to have a lower cost of electrical energy generations, the load factor
- 1) and diversity factor should below 2) should be low but diversity factor should be
3) should be high but diversity factor should high 4) and diversity factor should be high
152. In case of a 3ϕ SC in a system, the power fed into the system is
- 1) mostly reactive 2) mostly active 3) both 1 and 2 4) only reactive
153. A 3ϕ CB is rated a 2000 MVA, 33 KV, its making current will be
- 1) 35 kA 2) 49 kA 3) $8\sqrt{70}$ kA 4) 89 kA
154. The main consideration for higher and higher operating voltage of transmission is to
- 1) increase the of η_T 2) reduce power losses
3) increase power transmission capability 4) both 1 and 2
155. A thyrite type lightning arrester
- 1) blocks the surge voltage appearing in a line 2) absorbs the surge voltage appearing in a line
3) offer a low resistance path to the surge appearing in the line
4) return the surge back to the source
156. The scharge motor operating at
- 1) leading p.f. 2) lagging p.f. 3) Unity p.f. 4) all the above
157. When a dc source is switched to purely inductive, the current response is
- 1) an exponentially rising curve 2) an exponentially decaying curve
3) a straight line passing through the origin 4) a straight line off set from the origin
158. Which plant can be never have 100% load factor
- 1) nuclear power plant 2) peak load plant 3) hydro electric power plant 4) base load plant
159. More heat loss in a steam power station occurs in
- 1) boiler 2) super heater 3) economiser 4) condenser
160. The spacing between the conductors is increased the capacitance, inductance, resistance of a transmission line will be
- 1) increase, increase, increases 2) decreases, increases, increases
3) decreases, increases, constant 4) increases, decreases, constant
161. Corona loss is less when the shape of conductor
- 1) circular 2) flat 3) oval 4) independent of shape
162. Skin effect is effected by the following factor
- 1) supply frequency 2) radius of the conductor 3) type of supply system 4) all the above
163. The high voltage cartridge fuses are used up to
- 1) 11 KV 2) 22 KV 3) 33 KV 4) 66 KV
164. For high voltage applications, the insulator used of _____ type
- 1) suspension 2) pin 3) strain 4) none
165. The critical disruptive voltage will _____ if pressure decrease and _____ of temp increases
- 1) decreases, decreases 2) decreases, increases
3) increases, decreases 4) increases, increases
166. _____ relay is used for the feeders
- 1) mho 2) translay 3) merz price 4) bucholz
167. If the spark over voltage for an insulator string of 4 disc is 36 KV, the string efficiency is 90%, the spark over voltage of each disc is
- 1) 9 KV 2) 10 KV 3) 3.24 KV 4) 11 KV
168. Annealing of metals is preformed by
- 1) resistance heating 2) eddy current heating 3) arc furnace 4) dielectric heating
169. The ratio of MSCP to MHSCP of source of light is called
- 1) reflection factor 2) candela factor 3) reduction factor 4) quality factor

170. The minimum permissible value of earth resistance at small substation is
 1) 8Ω 2) 5Ω 3) 0.5Ω 4) 2Ω
171. The type of cable joint for large size cable
 1) Tee joint 2) married joint 3) Ferrul joint 4) Britannia joint
172. During carbon arc welding of electrode is connected to positive, then
 1) arc will be dull 2) arc will not strike 3) metal will not melt
 4) carbon will have tendency to go into the weld joint
173. During the re generative breaking energy is
 1) disippated in resistor 2) returned to the supply lines
 3) stored in the form KE 4) all the above
174. Unit of specific energy consumption is
 1) watt Hr/tonne/mile 2) KW/Hr/km 3) Watt/Hr/tonne/km 4) Kwh/tonne/km
175. A train has a schedule speed of 36 km/H on a level track. If the distance between the station is 2 km and stopping time 30 sec. The actual time will be
 1) 200 sec 2) 230 sec 3) 170 sec 4) 16.6 sec
176. The function of bleeder resistance in filter circuit is
 1) to maintain minimum current necessary for optimum inductor filter operation
 2) to work as voltage divider in order to provide variable output from the supply
 3) to provide discharge path to capacitors so that output becomes zero when the circuit has been de-energized 4) all the above
177. In a rectifier ckt, the load connected is of low value. For proper filter operation, it is required that
 1) a capacitor is to be included in the ckt 2) a bleeder resistance is to be placed in the ckt
 3) an inductor filter is to be included in the ckt 4) all the above
178. A commercial and an ideal regulated power supply should have
 1) 100%, 50% regulation 2) 1%, 0% regulation
 3) 100%, 0% regulation 4) 100%, 100% regulation
179. Voltage dependent resistors are used
 1) as current stabilizers 2) as heating elements
 3) for inductive circuits 4) to suppress surges
180. Diac-Traic built in the same chip is called
 1) ignition 2) thysistor 3) quadrac 4) all the above
181. For a PN-diode, the life time τ of carries is proportional to
 1) Wd 2) Wd^2 3) \sqrt{Wd} 4) $1/Wd$
182. In electronic timers, the basic timing elements are generally
 1) R and C in series 2) R and C in parallel 3) R and L in series 4) R and L in parallel
183. In radio and TV communication principle, the sound signals are _____ type modulated
 1) amplitude 2) frequency 3) phase 4) all the above
184. Which of the following multivibrator is called free running multivibrator
 1) monostable 2) bistable 3) astable 4) none
185. Which of the following counters has the highest speed
 1) asynchronous counter 2) synchronous counter 3) Ripple counter 4) ring counter
186. Which of the following flip flop is free from race around problems
 1) RS flip flop 2) D flip flop 3) T-flip flop 4) master slave JK flip flop
187. The circuit used for parallel to serial conversion of data
 1) decoder 2) demultiplexer 3) multivibrator 4) multiplexer
188. Which of the following is not sequential circuit
 1) counter 2) flip flop 3) shift register 4) multiplexer
189. The no. of compassion carried out in a 4 bit flash type A/D counter is
 1) 16 2) 15 3) 8 4) 10
190. A properly biased JFET will act as a
 1) current controlled current source 2) voltage controlled voltage source
 3) voltage controlled current source 4) current controlled voltage source
191. In a common emitter amplifier, the unbypassed R_E provides
 1) voltage shunt feedback 2) current series feedback
 3) negative voltage feedback 4) positive current feedback
192. As compared to MOS memories, Bi polar memories have
 1) smaller access time and lower cost 2) small access time and higher cost
 3) greater access time and low cost 4) greater access time and higher cost
193. For the logic circuit shown in the figure, the output Y is given by
 1) $A \cdot B$
 2) $AB + AB$
 3) $AB + AB$
 4) $AB + A + B$
194. The decimal equivalent of hexa decimal number E5 is
 1) 279 2) 229 3) 427 4) 3000
195. Which use least power consumption of logic family?
 1) TTL 2) ECL 3) CMOS 4) all use same power

196. In 8086 μp , the no flag register are
1) 5 2) 6 3) 8 4) 9
197. PUSH and POP instructions need _____ machine cycles for its operation in μp -programming language
1) 2 2) 3 3) 4 4) 5
198. Pick out the following which is a 16-bit register in μp 8085
1) program counter 2) stack pointer 3) HL pair 4) all the above
199. The simplification of Boolean expression $\overline{XZ} + X\overline{Z} + YZ$
1) $Y \cdot \overline{Z}$ 2) $Y + \overline{Z}$ 3) XYZ 4) $\overline{X} \cdot (Y + Z)$
200. The non-maskable interrupt is
1) RST 7.5 2) INTR 3) RST 5.5 4) TRAP