

Subject Code : 103 ▾

| Subject Code | Exam Date  | Q Id | Questions   | Answer Key |
|--------------|------------|------|---|------------|
| 103          | 03-12-2020 | 131  | <p>Who among following players has won highest number of titles at one particular Grand Slam singles event?</p> <p>(A) Rafael Nadal</p> <p>(B) Pete Sampras</p> <p>(C) Roger Federer</p> <p>(D) Novak Djokovic</p>  | (A)        |
| 103          | 03-12-2020 | 132  | <p>Which of the following Indian actor was conferred with UNDP's SDG Special Humanitarian Action Award?</p> <p>(A) Amitabh Bachchan</p> <p>(B) Deepika Padukone</p> <p>(C) Shah Rukh Khan</p> <p>(D) Sonu Sood</p>  | (D)        |
| 103          | 03-12-2020 | 133  | <p>PRAGATI scheme launched by GoI in 2015 is a multi-modal and multi-purpose platform that aims to address the grievances of a common man. Full form of PRAGATI is</p> <p>(A) Pro-Active Governance and Timely Implementation</p> <p>(B) Pro-Active Grievance and Timely Implementation</p> <p>(C) Pro-Active Governance and Timely Action</p> <p>(D) Pro-Active Governance and Truthful Action</p> | (A)        |
| 103          | 03-12-2020 | 134  | <p>Which of the following books is written by Rabindranath Tagore?</p>  | (A)        |

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|     |            |     | <p>(A) RaktaKarabi</p> <p>(B) Chidambara</p> <p>(C) Anand Math</p> <p>(D) Durgesh Nandini</p>   |     |
| 103 | 03-12-2020 | 135 | <p>The call sign of the aircraft with the President, Vice President or Prime Minister of India on board.</p> <p>(A) Presidential aircraft</p> <p>(B) Air India One</p> <p>(C) Air India</p> <p>(D) Air Force One</p>  | (B) |
| 103 | 03-12-2020 | 136 | <p>Replace the following with a suitable single word.</p> <p>To cause troops, etc. to spread out in readiness for battle</p> <p>(A) Disperse</p> <p>(B) Deploy</p> <p>(C) Collocate</p> <p>(D) Align</p>  | (B) |
| 103 | 03-12-2020 | 137 | <p>In question below, the passage consists of six sentences. The first and sixth sentences are given in the beginning. The middle sentences in each have been removed and jumbled up. These are labelled as P, Q, R and S. Find out the proper order for the four sentences.</p> <p><b>S1: A noise started above their heads.</b><br/> P : But people did not take it seriously.<br/> Q : That was to show everyone that there was something wrong.<br/> R : It was a dangerous thing to do.<br/> S : For, within minutes the ship began to sink.</p> | (A) |

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|     |            |     | <p><b>S6: Nearly 200 lives were lost on the fateful day.</b></p> <p>(A) QPRS</p> <p>(B) PQSR</p> <p>(C) PRQS</p> <p>(D) QPSR</p>   |     |
| 103 | 03-12-2020 | 138 | <p>Give synonym for the word</p> <p><b>‘ industrious’</b></p> <p>(A) indolent</p> <p>(B) prompt</p> <p>(C) loafing</p> <p>(D) diligent</p>   | (D) |
| 103 | 03-12-2020 | 139 | <p>In question given below, a part of the sentence is italicised and underlined. Below are given alternatives to the underlined part which may improve the sentence. Choose the correct alternative. In case no improvement is needed, option ' <b>No improvement</b>' may be chosen as the answer.</p> <p>I took the cycle <u><i>which he bought yesterday.</i></u></p> <p>(A) No improvement</p> <p>(B) that he bought yesterday</p> <p>(C) that which he had bought yesterday</p> <p>(D) that he had bought yesterday</p> | (D) |
| 103 | 03-12-2020 | 140 | <p>Candid is to indirect as honest is to</p> <p>(A) frank</p> <p>(B) wicked</p> <p>(C) untruthful</p>  | (C) |

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|     |            |     | (D) truthful  |     |
| 103 | 03-12-2020 | 141 | <p>Given sentence has an underlined word followed by four choices. Choose the word that is a necessary part of the underlined word.</p> <p><b>The necessary part of <u>language</u></b></p> <p>(A) tongue</p> <p>(B) slang</p> <p>(C) writing</p> <p>(D) words</p>  | (D) |
| 103 | 03-12-2020 | 142 | <p>Read the definition and all four choices carefully, and find the answer that provides the best example of the given definition.</p> <p><b>Violating an Apartment Lease</b> occurs when a tenant does something prohibited by the legally binding document that he or she has signed with a landlord. Which situation below is the best example of Violating an Apartment Lease?</p> <p>(A) Tom has decided to move to another city, so he calls his landlord to tell him that he is not interested in renewing his lease when it expires next month.</p> <p>(B) Mary recently lost her job and, for the last three months, has neglected to pay her landlord the monthly rent they agreed upon in writing when she moved into her apartment eight months ago.</p> <p>(C) Mark writes a letter to his landlord that lists numerous complaints about the apartment he has agreed to rent for two years.</p> <p>(D) Leslie thinks that her landlord is neglecting the building in which she rents an apartment. She calls her attorney to ask for advice.</p> | (B) |
| 103 | 03-12-2020 | 143 | Look at this series:  | (D) |

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|     |            |     | <p><b>V, VIII, XI, XIV, __, XX</b></p> <p>What number should fill the blank?</p> <p>(A) IX</p> <p>(B) XXIII</p> <p>(C) XV</p> <p>(D) XVII</p>  |     |
| 103 | 03-12-2020 | 144 | <p>8 persons E, F, G, H, I, J, K and L are seated around a square table - two on each side. There are 3 ladies who are not seated next to each other. J is between L and F. G is between I and F. H, a lady member is second to the left of J. F, a male member is seated opposite to E, a lady member. There is a lady member between F and I. What is true about J and K ?</p> <p>(A) J is male, K is female</p> <p>(B) Both are male</p> <p>(C) J is female, K is male</p> <p>(D) Both are female</p> | (B) |
| 103 | 03-12-2020 | 145 | <p>If M x N means M is the daughter of N; M + N means M is the father of N; M % N means M is the mother of N and M - N means M is the brother of N then P % Q + R - T x K indicates which relation of P to K?</p> <p>(A) Daughter-in-law</p> <p>(B) Mother-in-law</p> <p>(C) Sister-in-law</p> <p>(D) Aunt</p>   | (B) |
| 103 | 03-12-2020 | 146 | <p>A sum of money is to be distributed among A, B, C, D in the proportion of 5 : 2 : 4 : 3. If C gets Rs. 1000 more than D, what is B's share?</p> <p>(A) Rs. 500</p>  | (C) |

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|     |            |     | <p>(B) Rs. 1500</p> <p>(C) Rs. 2000</p> <p>(D) Rs. 2500</p>   |     |
| 103 | 03-12-2020 | 147 | <p>Ayesha's father was 38 years of age when she was born while her mother was 36 years old when her brother four years younger to her was born. What is the difference between the ages of her parents?</p> <p>(A) 6 years</p> <p>(B) 4 years</p> <p>(C) 2 years</p> <p>(D) 8 years</p> | (A) |
| 103 | 03-12-2020 | 148 | <p>A library has an average of 510 visitors on Sundays and 240 on other days. The average number of visitors per day in a month of 30 days beginning with a Sunday is</p> <p>(A) 250</p> <p>(B) 276</p> <p>(C) 280</p> <p>(D) 285</p>   | (D) |
| 103 | 03-12-2020 | 149 | <p>The price of 2 sarees and 4 shirts is Rs. 1600. With the same money one can buy 1 saree and 6 shirts. If one wants to buy 12 shirts, how much shall he have to pay ?</p> <p>(A) Rs. 4800</p> <p>(B) Rs. 2400</p> <p>(C) Rs. 1200</p> <p>(D) Rs. 2800</p>                             | (B) |
| 103 | 03-12-2020 | 150 | <p>A rectangular park 60 m long and 40 m wide has two concrete crossroads running in the middle of</p>  | (C) |

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|     |            |     | <p>the park and rest of the park has been used as a lawn. If the area of the lawn is 2109 sq. m, then what is the width of the road?</p> <p>(A) 2.91 m</p> <p>(B) 5.82 m</p> <p>(C) 3 m</p> <p>(D) 6 m</p>   |     |
| 103 | 03-12-2020 | 151 | <p>Two resistors are said to be connected in series when</p> <p>(A) both carry the same value of current</p> <p>(B) total current equals the sum of branch currents</p> <p>(C) sum of IR drops equals battery emf</p> <p>(D) they provide only one path for the current flow</p>   | (D) |
| 103 | 03-12-2020 | 152 | <p>What is the fundamental concept of the GMDSS?</p> <p>(A) It is intended to automate and improve emergency communication in the marine industry</p> <p>(B) It is intended to automate and improve existing digital selective calling procedure and techniques</p> <p>(C) It is intended to provide vessels with a compulsory collision avoidance system when they are operating in water that are also occupied by non-compulsory vessels</p> <p>(D) It is intended to provide more effective but lower cost commercial communications</p> | (A) |
| 103 | 03-12-2020 | 153 | <p>An autotransformer consists of 200-turn winding connected to 200V a.c supply mains. For getting 24V output, the winding should be tapped at turn numbers.</p> <p>(A) 24</p>   | (A) |

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|     |            |     | <p>(B) 12</p> <p>(C) 100</p> <p>(D) 72</p>   |     |
| 103 | 03-12-2020 | 154 | <p>Doping materials are called impurities because they</p> <p>(A) decrease the number of charge carriers</p> <p>(B) change the chemical properties of semiconductors</p> <p>(C) make semiconductors less than 100 percent pure</p> <p>(D) alter the crystal structure of the pure semiconductors</p> | (D) |
| 103 | 03-12-2020 | 155 | <p>The capacitance of a varactor diode can be changed by</p> <p>(A) increasing its doping level</p> <p>(B) changing its forward bias</p> <p>(C) changing the barrier potential</p> <p>(D) changing the reverse voltage</p>   | (C) |
| 103 | 03-12-2020 | 156 | <p>A coil has an inductance of 1 H if current changing at the rate of 2A/s induces</p> <p>(A) one volt in it</p> <p>(B) two volts in another coil</p> <p>(C) two volts in it</p> <p>(D) half a volt in it</p>  | (C) |
| 103 | 03-12-2020 | 157 | <p>Differential transformer transducer is used for the measurment of</p> <p>(A) displacement</p>   | (A) |



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|     |            |     | (B) liquid level<br>(C) temperature<br>(D) speech and music   |     |
| 103 | 03-12-2020 | 158 | Constructionally, a solar cell consists of a<br>(A) semiconductor bonded to a metal<br>(B) piece of silicon<br>(C) P-N junction<br>(D) photoemissive material   | (C) |
| 103 | 03-12-2020 | 159 | An SCS has<br>(A) four layers and three terminals<br>(B) three layers and four terminals<br>(C) two anodes and two gates<br>(D) one anode, one cathode and two gates  | (D) |
| 103 | 03-12-2020 | 160 | To obtain very high input and output impedance in a feedback amplifier, the topology must be<br>(A) voltage-series<br>(B) current-series<br>(C) voltage-shunt<br>(D) current-shunt  | (C) |
| 103 | 03-12-2020 | 161 | A non-triggered oscilloscope is one which<br>(A) has no sweep generator<br>(B) cannot produce a stable stationary screen display<br>(C) has a continuously running time-base generator<br>(D) can display a portion of the input signal | (C) |

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|     |            |     | waveform   |     |
| 103 | 03-12-2020 | 162 | <p>The current- delivering capacity of a cell depends on</p> <p>(A) condition of electrolyte</p> <p>(B) quality of electrolyte</p> <p>(C) physical size of electrode</p> <p>(D) All of the options</p>                                 | (D) |
| 103 | 03-12-2020 | 163 | <p>The rms value of a sinusoidal ac current is equals to its value at an angle of .....degrees.</p> <p>(A) 60</p> <p>(B) 45</p> <p>(C) 30</p> <p>(D) 90</p>  | (B) |
| 103 | 03-12-2020 | 164 | <p>The main reason why electrons can tunnel through a P-N junction is that</p> <p>(A) they have high energy</p> <p>(B) barrier potential is very low</p> <p>(C) depletion layer is extremely thin</p> <p>(D) impurity level is low</p> | (C) |
| 103 | 03-12-2020 | 165 | <p>Cosmic noise is caused by</p> <p>(A) lightning discharges</p> <p>(B) solar eruptions</p> <p>(C) distant stars</p> <p>(D) industrial electrical discharges</p>   | (C) |
| 103 | 03-12-2020 | 166 | <p>Precision measurement of resistances is generally carried out by</p>  | (D) |

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|     |            |     | <p>(A) potentiometer method</p> <p>(B) CRO method</p> <p>(C) voltmeter -ammeter method</p> <p>(D) bridge method</p>  |     |
| 103 | 03-12-2020 | 167 | <p>The decimal equivalent of the hexadecimal number E5 is</p> <p>(A) 279</p> <p>(B) 229</p> <p>(C) 427</p> <p>(D) 300</p>  | (B) |
| 103 | 03-12-2020 | 168 | <p>The primary function of a clamper circuit is to</p> <p>(A) suppress variations in signal voltage</p> <p>(B) raise positive half-cycle of the signal</p> <p>(C) lower negative half- cycle of the signal</p> <p>(D) introduce a dc level into an ac signal</p> | (D) |
| 103 | 03-12-2020 | 169 | <p>A thermistor</p> <p>(A) is made of a semiconductor like silicon</p> <p>(B) has positive temperature coefficient</p> <p>(C) cannot be used for measuring temperatures below 0 degree C</p> <p>(D) has negative temperature coefficient</p>                     | (D) |
| 103 | 03-12-2020 | 170 | <p>A square voltage wave is applied to a RC circuit having a short time constant. The waveshape of the charging current</p> <p>(A) resembles the waveshape of the applied voltage</p>  | (C) |

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|     |            |     | <p>(B) has rounded corners</p> <p>(C) has sharp peaks coinciding with leading edge of the applied voltage pulse</p> <p>(D) is triangular</p>   |     |
| 103 | 03-12-2020 | 171 | <p>The collector characteristics of a CE - connected transistor may be used to find its</p> <p>(A) input resistance</p> <p>(B) base current</p> <p>(C) output resistance</p> <p>(D) voltage gain</p>   | (C) |
| 103 | 03-12-2020 | 172 | <p>The main idea behind the use of a coupling circuit is to</p> <p>(A) connect two independent circuits</p> <p>(B) transfer energy from one circuit to another</p> <p>(C) reject unwanted frequencies</p> <p>(D) utilize mutual inductance</p> | (B) |
| 103 | 03-12-2020 | 173 | <p>The major cause of creeping in an energy meter is</p> <p>(A) over-compensation for friction</p> <p>(B) mechanical vibrations</p> <p>(C) excessive voltage across the potential coil</p> <p>(D) stray magnetic fields</p>                    | (C) |
| 103 | 03-12-2020 | 174 | <p>The bandwidth of an amplifier may be increased by</p> <p>(A) decreasing the capacitance of its bypass capacitors</p> <p>(B) minimizing its stray capacitances</p> <p>(C) increasing input signal frequency</p>                              | (B) |

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|     |            |     | (D) cascading it   |     |
| 103 | 03-12-2020 | 175 | <p>When in a negative scaler, both R1 and Rf are reduced to zero, the circuit functions as</p> <p>(A) integrator</p> <p>(B) subtractor</p> <p>(C) comparator</p> <p>(D) unity follower</p>                   | (D) |
| 103 | 03-12-2020 | 176 | <p>An ideal power supply is characterised by</p> <p>(A) Very large output resistance</p> <p>(B) Very small output resistance</p> <p>(C) Zero internal resistance</p> <p>(D) Infinite internal resistance</p> | (C) |
| 103 | 03-12-2020 | 177 | <p>For a full-wave rectifier sine wave, form factor is</p> <p>(A) 1.55</p> <p>(B) 1.44</p> <p>(C) 1.22</p> <p>(D) 1.11</p>   | (D) |
| 103 | 03-12-2020 | 178 | <p>In general, LEDs operate at voltage levels from _____ V to _____ V.</p> <p>(A) 1.0, 3.0</p> <p>(B) 1.7, 3.3</p> <p>(C) 0.5, 4.0</p> <p>(D) None of the options</p>  | (B) |
| 103 | 03-12-2020 | 179 | <p>At series or parallel resonance, the circuit power factor is .....</p>  | (C) |

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|     |            |     | (A) 0<br>(B) 0.8 leading<br>(C) 1<br>(D) 0.8 lagging   |     |
| 103 | 03-12-2020 | 180 | Which of the following is decimal equivalent of the binary 111111 ?<br>(A) 67<br>(B) 87<br>(C) 127<br>(D) 167  | (C) |
| 103 | 03-12-2020 | 181 | The maximum peaks of an electromagnetic wave are separated by a distance of 8 inch. What is the frequency?<br>(A) 256.4Khz<br>(B) 1477.5Khz<br>(C) 1477.8Mhz<br>(D) 256.7Mhz                             | (C) |
| 103 | 03-12-2020 | 182 | Usually double tuned amplifier circuit is employed in<br>(A) Audio stage of radio receiver<br>(B) Mixing stage of radio receiver<br>(C) Output stage of radio receiver<br>(D) IF stage of radio receiver | (D) |
| 103 | 03-12-2020 | 183 | Emitter follower is used for<br>(A) Current gain<br>(B) Impedance matching   | (B) |

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|     |            |     | (C) Voltage gain<br>(D) None of the options   |     |
| 103 | 03-12-2020 | 184 | The main difference between a register and a counter is<br><br>(A) A register has no specific sequence of states<br>(B) A counter has no specific sequence of states<br>(C) A register has capability to store one bit of information but counter has n-bit<br>(D) A register counts data | (A) |
| 103 | 03-12-2020 | 185 | Boolean algebra is essential based on<br><br>(A) Numbers<br>(B) Truth<br>(C) Logic<br>(D) Symbols   | (C) |
| 103 | 03-12-2020 | 186 | Which microprocessor has multiplexed data and address lines?<br><br>(A) 8086<br>(B) 80286<br>(C) 80386<br>(D) Pentium   | (A) |

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| 103 | 03-12-2020 | 187 | <p>Which of the following amplifier is designed to operate in digital pulses?</p> <p>(A) Class D</p> <p>(B) Class C</p> <p>(C) Class AB</p> <p>(D) Class B</p>   | (A) |
| 103 | 03-12-2020 | 188 | <p>A basic multiplexer principle can be demonstrated through the use of a</p> <p>(A) Single-pole relay</p> <p>(B) DPDT switch</p> <p>(C) Rotary switch</p> <p>(D) Linear stepper</p>   | (C) |
| 103 | 03-12-2020 | 189 | <p>A TDMA system uses 25 MHz for the forward link, which is broken into radio channels of 200 kHz. If 8 speech channels are supported on a single radio channel, how many simultaneous users can be accommodated?</p> <p>(A) 25</p> <p>(B) 200</p> <p>(C) 1600</p> <p>(D) 1000</p> | (D) |
| 103 | 03-12-2020 | 190 | <p>Cathode ray oscilloscope uses</p> <p>(A) Wide band amplifier</p> <p>(B) Narrow band amplifier</p> <p>(C) Zero band amplifier</p> <p>(D) None of the options</p>   | (A) |



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| 103 | 03-12-2020 | 191 | <p>What is IC 723?</p> <p>(A) A voltage regulator</p> <p>(B) A full-wave rectifier</p> <p>(C) A half-wave rectifier</p> <p>(D) A clipper</p>  | (A) |
| 103 | 03-12-2020 | 192 | <p>One advantage TTL has over CMOS is that TTL is</p> <p>(A) less expensive</p> <p>(B) not sensitive to electrostatic discharge</p> <p>(C) faster</p> <p>(D) more widely available</p>  | (B) |
| 103 | 03-12-2020 | 193 | <p>The process of releasing electrons from a metal surface by supplying heat energy to it is called ..... emission</p> <p>(A) photoelectric</p> <p>(B) thermionic</p> <p>(C) secondary</p> <p>(D) cold</p>  | (B) |
| 103 | 03-12-2020 | 194 | <p>The structure of the IGBT is a</p> <p>(A) P-N-P structure connected by a MOS gate</p> <p>(B) N-N-P-P structure connected by a MOS gate</p> <p>(C) P-N-P-N structure connected by a MOS gate</p> <p>(D) N-P-N-P structure connected by a MOS gate</p> | (C) |
| 103 | 03-12-2020 | 195 | <p>Electronic soft starters are used for motors to:</p> <p>(A) achieve variable speed</p>   | (B) |

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|     |            |     | <p>(B) provide smooth start and stop</p> <p>(C) improve the loading</p> <p>(D) None of the options</p>   |     |
| 103 | 03-12-2020 | 196 | <p>Which of these best describes a PTZ CCTV camera</p> <p>(A) A fixed camera with a wide angle lens</p> <p>(B) A camera with night vision capability</p> <p>(C) A mobile camera which is positioned in high crime areas</p> <p>(D) A camera with remote directional and zoom control</p> | (D) |
| 103 | 03-12-2020 | 197 | <p>Which one of the following is not a reason for not using X-rays in communication?</p> <p>(A) Highly attenuated</p> <p>(B) High power is required</p> <p>(C) Stopped by ionizing effects</p> <p>(D) Ionizing radiation</p>   | (C) |
| 103 | 03-12-2020 | 198 | <p>A decade counter needs</p> <p>(A) 10 flip-flops</p> <p>(B) 4 flip-flops</p> <p>(C) 5 flip-flops</p> <p>(D) 2 flip-flops</p>   | (B) |
| 103 | 03-12-2020 | 199 | <p>Piezoelectric transducer is used for measuring</p> <p>(A) non-electrical quantities</p> <p>(B) electrical quantities</p> <p>(C) chemical quantities</p>   | (A) |

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|     |            |     | (D) any quantity   |     |
| 103 | 03-12-2020 | 200 | <p>Which protocol assigns IP address to the client connected in the internet?</p> <p>(A) DHCP</p> <p>(B) IP</p> <p>(C) RPC</p> <p>(D) RSVP</p> | (A) |