

## Physics ECAT Pre Engineering Chapter 13 Current Electricity

Sr	Questions	Answers Choice
1	In order to have a constant current through wire, the potential difference across its end should:	<p>A. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Be zero</span></p> <p>B. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Be maintained constant</span></p> <p>C. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Goes on increasing</span></p> <p>D. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Go on decreasing</span></p> <p>E. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Both (A) and (B)</span></p>
2	When two spherical conducting balls at different potentials are joined by metallic wire, the current starts:	<p>A. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Decreasing from zero to maximum</span></p> <p>B. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Increasing from zero to maximum</span></p> <p>C. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Decreasing from maximum to zero</span></p> <p>D. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Increasing from maximum to zero</span></p> <p>E. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Both (A) and (D)</span></p>
3	The strength of magnetic field at certain points around a wire depends upon:	<p>A. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Value of current passing</span></p> <p>B. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Distance from the current element</span></p> <p>C. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Color of the material</span></p> <p>D. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Both (A) and (B)</span></p> <p>E. <span style="font-size: 12pt; line-height: 107%; font-family: Times New Roman, serif;">Both (A) and (B)</span></p>

family:&quot;, serif&quot;}>Both (B) and (C)  
</p></span></p>

4 Field lines are closer to each other in the region where the field is:

- A. <p class="MsoNormal"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Stronger</p></span></p>
- B. <p class="MsoNormal"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Weaker</p></span></p>
- C. <p class="MsoNormal"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Much weaker</p></span></p>
- D. <p class="MsoNormal"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Absent</p></span></p>
- E. <p class="MsoNormal"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>None of these</p></span></p>

5 Which of the following substances has got positive temperature coefficient of resistance?

- A. Carbon
- B. Germanium
- C. Silicon
- D. Aluminium
- E. None of these

6 The free electrons in metals:

- A. <p class="MsoNormal" style="text-align: justify"><span style="font-size: 12pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, serif;">Are in random motion and their speed depends upon temperature<b></b></span></p>
- B. <p class="MsoNormal" style="text-align: justify"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Move in particular direction</p></span></p>
- C. <p class="MsoNormal" style="text-align: justify"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Move with speed of light</p></span></p>
- D. <p class="MsoNormal" style="text-align: justify"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Move such that their speed does not depend on their temperature</p></span></p>
- E. <p class="MsoNormal" style="text-align: justify"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>None of these</p></span></p>

7 An important part of inkjet printer is:

- A. <span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}; mso-fareast-font-family: Calibri; mso-fareast-theme-font: minor-latin; mso-ansi-language: EN-US; mso-fareast-language: EN-US; mso-bidi-language: AR-SA">Toner</span>
- B. <p class="MsoNormal"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Drum</p></span></p>
- C. <p class="MsoNormal"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Deflection plates</p></span></p>
- D. <p class="MsoNormal"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Heated roles</p></span></p>
- E. <p class="MsoNormal"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>None of these</p></span></p>

- A. <p class="MsoNormal"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Straight lines</p></span></p>
- B. <p class="MsoNormal"><span style="font-size: 12.0pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, &quot;serif&quot;}>Sine curves</p></span></p>

8	In case of two identical charges placed certain distance apart, the electric field lines are:	<p>C. <span style='font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>Curved</span></p> <p>D. <span style='font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>Both (A) and (B)</span></p> <p>E. <span style='font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>None of these</span></p>
9	The rate at which the free electrons pass through any section of a metallic wire from right to left is:	<p>A. <span style='text-align: justify; font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>Greater than the speed at which they pass from left to right</span></p> <p>B. <span style='text-align: justify; font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>Less than the speed at which they pass from left to right</span></p> <p>C. <span style='text-align: justify; font-size: 12pt; line-height: 107%; font-family: "Times New Roman", serif;'>The same speed at which they pass from left to right</span></p> <p>D. <span style='text-align: justify; font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>Any of above</span></p> <p>E. <span style='text-align: justify; font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>None of them</span></p>
10	The passage of current is accompanied by a magnetic field in the surrounding space:	<p>A. <span style='text-align: justify; font-size: 12pt; line-height: 107%; font-family: "Times New Roman", serif;'>Always accompanied</span></p> <p>B. <span style='text-align: justify; font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>Sometimes accompanied</span></p> <p>C. <span style='text-align: justify; font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>Never accompanied</span></p> <p>D. <span style='text-align: justify; font-size: 12pt; text-align: justify; font-family: "Times New Roman", serif;'>Any of above</span></p> <p>E. <span style='text-align: justify; font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>None of these</span></p>
11	The current that flows through the coil of a motor causes	<p>A. Its shaft to revolve</p> <p>B. Its brushes to rotate</p> <p>C. Motor to move</p> <p>D. <span style="color: green;">Its shaft to rotate</span></p> <p>E. None of these</p>
12	Two dissimilar metals joined at their ends kept at constant temperature constitute:	<p>A. <span style='text-align: justify; font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>Cell</span></p> <p>B. <span style='text-align: justify; font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif"'>Voltmeter</span></p> <p>C. <span style='text-align: justify; font-size: 12pt; line-height: 107%; font-family: "Times New Roman", serif;'>Thermocouple</span></p>

		<p>&lt;/p&gt;  D. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman","serif""&gt;Potentiometer&lt;/span&gt;&lt;/p&gt;  E. None of these</p>
13	The fourth band is a:	A. Silver band B. Red band C. Gold band D. Either A or C E. Either A or B
14	An example of photoconductor is:	A. <p class="MsoNormal"><span style="font-size:12.0pt; line-height:107%;font-family: "Times New Roman","serif"">Boron</span></p> B. <p class="MsoNormal"><span style="font-size:12.0pt; line-height:107%;font-family: "Times New Roman","serif"">Carbon</span></p> C. <p class="MsoNormal"><span style="font-size:12.0pt; line-height:107%;font-family: "Times New Roman","serif"">Iron</span></p> D. <p class="MsoNormal"><span style="font-size:12.0pt; line-height:107%;font-family: "Times New Roman","serif"">Aluminum</span></p> E. <p class="MsoNormal"><span style="font-size:12.0pt; line-height:107%;font-family: "Times New Roman","serif"">Selenium</span></p>
15	The current that flows through the coil of a motor causes:	A. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman","serif"">Its shaft to revolve</span></p> B. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman","serif"">Its brushes to rotate</span></p> C. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman","serif"">Motor to move</span></p> D. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12pt; line-height:107%; font-family: "Times New Roman"," serif,">Its shafts to rotate<b></b></span></p> E. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman","serif"">None of these</span></p>
16	Electrolysis is the study of conduction of electricity through:	A. Solids B. Liquids C. Gases D. Plasma
17	An ideal voltmeter has:	A. Zero resistance B. Small resistance C. Large resistance D. Infinite resistance E. Both A and B
18	The flux through a closed surface depends upon:	A. <p class="MsoNormal"><span style="font-size:12.0pt; line-height:107%;font-family: "Times New Roman","serif";mso-fareast-font-family:"Times New Roman";mso-fareast-theme-font: minor-fareast">Shape of geometry of the closed surface</span></p> B. <p class="MsoNormal"><span style="font-size:12.0pt; line-height:107%;font-family: "Times New Roman","serif";mso-fareast-font-family:"Times New Roman";mso-fareast-theme-font: minor-fareast">Charge enclosed</span></p> C. <p class="MsoNormal"><span style="font-size:12.0pt; line-height:107%;font-family: "Times New Roman","serif";mso-fareast-font-family:"Times New Roman";mso-fareast-theme-font: minor-fareast">Nature of the

medium<o:p></o:p></span></p>  
D. <p class="MsoNormal"><span style="font-size:12.0pt;line-height:107%;font-family: &quot;Times New Roman&quot;, &quot;serif&quot;;mso-fareast-font-family:&quot;Times New Roman&quot;;mso-fareast-theme-font: minor-fareast">Both (A) and (B)<o:p></o:p></span></p>  
E. <p class="MsoNormal"><span style="font-size:12.0pt;line-height:107%;font-family: &quot;Times New Roman&quot;, &quot;serif&quot;;mso-fareast-font-family:&quot;Times New Roman&quot;;mso-fareast-theme-font: minor-fareast">Both (B) and (C)<o:p></o:p></span></p>

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The passage of current is accompanied by a magnetic field in the surrounding space:

A. <p class="MsoNormal" style="text-align:justify"><span style="font-size: 12pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, serif;">Always accompanied<b><o:p></o:p></b></span></p>  
B. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;, &quot;serif&quot;">Sometimes accompanied<o:p></o:p></span></p>  
C. <p class="MsoNormal" style="text-align:justify"><span style="font-size: 12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;, &quot;serif&quot;">Never accompanied<o:p></o:p></span></p>  
D. <span style="font-family: &quot;Times New Roman&quot;, serif; font-size: 12pt; text-align: justify;">Any of above</span><p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;, &quot;serif&quot;"><o:p></o:p></span></p>  
E. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;, &quot;serif&quot;">None of these<o:p></o:p></span></p>

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The term drift velocity is used when the ends of a wire are:

A. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;, &quot;serif&quot;">Connected to a laser source<o:p></o:p></span></p>  
B. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;, &quot;serif&quot;">Connected to a voltage source<o:p></o:p></span></p>  
C. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;, &quot;serif&quot;">Not connected to a voltage source<o:p></o:p></span></p>  
D. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;, &quot;serif&quot;">At different values of potential<o:p></o:p></span></p>  
E. <p class="MsoNormal" style="text-align:justify"><span style="font-size: 12pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, serif;">Both (B) and (D)<b><o:p></o:p></b></span></p>