

## ECAT Pre General Science Physics Chapter 13 Current Electricity

Sr	Questions	Answers Choice
1	The earth's potential and potential at infinity are taken:	<p>A. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;span style="font-size: 12pt; line-height: 107%; font-family: "Times New Roman", serif;&gt;Equal&lt;b&gt;&lt;o:p&gt;&lt;/o:p&gt;&lt;/b&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>B. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;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"&gt;Zero&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>C. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;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"&gt;First is greater than the second&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>D. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;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"&gt;Second is greater than the first&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>E. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;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"&gt;Both (A) and (B)&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p>
2	The inkjet printer ejects a thin stream of:	<p>A. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;span style="font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif";&gt;Water&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>B. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;span style="font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif";&gt;Oil&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>C. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;span style="font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif";&gt;Ink&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>D. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;span style="font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif";&gt;Any of above&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>E. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;span style="font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif";&gt;None of these&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p>
3	Static electricity is produced by the transfer of:	<p>A. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;span style="font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif";&gt;Electrons&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>B. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;span style="font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif";&gt;Protons&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>C. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;span style="font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif";&gt;One fluid&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>D. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;span style="font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif";&gt;Two fluids&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p> <p>E. <span style="color: green;">&lt;p class="MsoNormal"&gt;&lt;span style="font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", "serif";&gt;None of these&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</span></p>
4	The third band of the colour code:	<p>A. Gives the number of zeroes</p> <p>B. Is decimal multiplier</p> <p>C. Gives the resistance tolerance</p>

D. Gives the third digit  
E. Both (A) and (B)

5 Electrostatics is the branch of physics which deals with the study of electro charges:

- A. At rest
- B. At rest under the action of electric forces
- C. In motion under the action of electric forces
- D. In motion
- E. At rest under the action of nuclear forces

6 The free electrons in metals:

- A. Are in random motion and their speed depends upon temperature
- B. Move in particular direction
- C. Move with speed of light
- D. Move such that their speed does not depend on their temperature
- E. None of these

7 A thermistor is a resistor which is:

- A. Light Sensitive  
B. Heat Sensitive  
C. Sound Sensitive  
D. All of these  
E. None of these

8 Two dissimilar metals joined at their ends kept at constant temperature constitute:

- A. Cell
- B. Voltmeter
- C. Thermocouple
- D. Potentiometer
- E. None of these

- A. Positrons
- B. Positive charges
- C. None of these

9	The conventional current is the name given to current due to flow of:	<p>family:&amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;:&gt;Negative charges&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>D. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;:&gt;Both (A) and (C)&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>E. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;:&gt;None of these&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p>
		<p>A. &lt;p class="MsoNormal"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family: &amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;;mso-fareast-font-family:&amp;quot;Times New Roman&amp;quot;;mso-fareast-theme-font: minor-fareast"&gt;Charge per volume&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>B. &lt;p class="MsoNormal"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family: &amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;;mso-fareast-font-family:&amp;quot;Times New Roman&amp;quot;;mso-fareast-theme-font: minor-fareast"&gt;Mass per volume&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>C. &lt;p class="MsoNormal"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family: &amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;;mso-fareast-font-family:&amp;quot;Times New Roman&amp;quot;;mso-fareast-theme-font: minor-fareast"&gt;Charge per area&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>D. &lt;p class="MsoNormal"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family: &amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;;mso-fareast-font-family:&amp;quot;Times New Roman&amp;quot;;mso-fareast-theme-font: minor-fareast"&gt;Mass per area&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>E. &lt;p class="MsoNormal"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family: &amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;;mso-fareast-font-family:&amp;quot;Times New Roman&amp;quot;;mso-fareast-theme-font: minor-fareast"&gt;Both (B) and (C)&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p>
10	The surface density of charge is defined is:	<p>A. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;:&gt;Greater than the speed at which they pass from left to right&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>B. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;:&gt;Less than the speed at which they pass from left to right&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>C. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12pt; line-height:107%; font-family: &amp;quot;Times New Roman&amp;quot;, serif;"&gt;The same speed at which they pass from left to right&lt;b&gt;&lt;o:p&gt;&lt;/o:p&gt;&lt;/b&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>D. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;:&gt;Any of above&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>E. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;:&gt;None of them&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p>
11	The rate at which the free electrons pass through any section of a metallic wire from right to left is:	<p>A. Charges at rest</p> <p>B. Charges in motion</p> <p>C. Electrons at rest</p> <p>D. Atoms in motion</p> <p>E. Molecules in motion</p>
12	Most practical applications of electricity involve	<p>A. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12pt; line-height:107%; font-family: &amp;quot;Times New Roman&amp;quot;, serif;"&gt;Decreases&lt;b&gt;&lt;o:p&gt;&lt;/o:p&gt;&lt;/b&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>B. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;:&gt;Increases&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p>C. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;, &amp;quot;serif&amp;quot;:&gt;None of these&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p>

13	When resistance of a current carrying wire increases due to rise in temperature, the drift velocity of electrons:	<p>&lt;span style="font-size: 12.0pt; line-height: 107%;font-family:"Times New Roman";" serif"";&gt;Remains the constant&lt;/span&gt;&lt;/p&gt; <p>D. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family:"Times New Roman";" serif"";&gt;Either of these&lt;/span&gt;&lt;/p&gt; <p>E. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family:"Times New Roman";" serif"";&gt;None of these&lt;/span&gt;&lt;/p&gt; </p></p></p>
14	In case of metallic conductors, the charge carriers are	<p>A. Protons  B. Electrons  C. Antiprotons  D. Positrons  E. Both A and B</p>
15	When a constant potential difference is applied across the conductor, the drift velocity of electrons:	<p>A. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family:"Times New Roman";" serif"";&gt;Increases&lt;/span&gt;&lt;/p&gt; <p>B. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family:"Times New Roman";" serif"";&gt;Decreases&lt;/span&gt;&lt;/p&gt; <p>C. &lt;span style="font-size: 12pt; line-height: 107%; font-family: "Times New Roman"; serif,"&gt;Remains the constant&lt;b&gt;&lt;/span&gt;&lt;/p&gt; <p>D. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family:"Times New Roman";" serif"";&gt;Either of these&lt;/span&gt;&lt;/p&gt; <p>E. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family:"Times New Roman";" serif"";&gt;None of these&lt;/span&gt;&lt;/p&gt; </p></p></p></p></p>
16	In order to have a constant current through wire, the potential difference across its end should:	<p>A. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family:"Times New Roman";" serif"";&gt;Be zero&lt;/span&gt;&lt;/p&gt; <p>B. &lt;span style="font-size: 12pt; line-height: 107%; font-family: "Times New Roman"; serif,"&gt;Be maintained constant&lt;b&gt;&lt;/span&gt;&lt;/p&gt; <p>C. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family:"Times New Roman";" serif"";&gt;Goes on increasing&lt;/span&gt;&lt;/p&gt; <p>D. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family:"Times New Roman";" serif"";&gt;Go on decreasing&lt;/span&gt;&lt;/p&gt; <p>E. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family:"Times New Roman";" serif"";&gt;Both (A) and (B)&lt;/span&gt;&lt;/p&gt; </p></p></p></p></p>
17	Electric flux is:	<p>A. &lt;span style="font-family: "Times New Roman"; serif; font-size: 12pt;"&gt;Cross product of two vector&lt;/span&gt;&lt;/p&gt; <p>B. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family: "Times New Roman";" serif"";&gt;Dot product of two vectors&lt;/span&gt;&lt;/p&gt; <p>C. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family: "Times New Roman";" serif"";&gt;A vector quantity&lt;/span&gt;&lt;/p&gt; <p>D. &lt;span style="font-size: 12.0pt; line-height: 107%;font-family: "Times New Roman";" serif"";&gt;A scalar quantity&lt;/span&gt;&lt;/p&gt; </p></p></p></p>

E. Both (B) and (D)

18

Certain charge  $+q$  is placed at the center of a sphere. At each of the sphere, The directions of electric intensity and vector area are:

- A. Same
- B. Different
- C. Opposite to each other
- D. At  $60^\circ$  with each other
- E. Both (B) and (C)

19

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

- A. Always accompanied
- B. Sometimes accompanied
- C. Never accompanied
- D. Any of above
- E. None of these

20

The value of relative permittivity of different dielectrics are:

- A. Equal
- B. Different
- C. Greater than one
- D. Smaller than one
- E. Both (B) and (C)